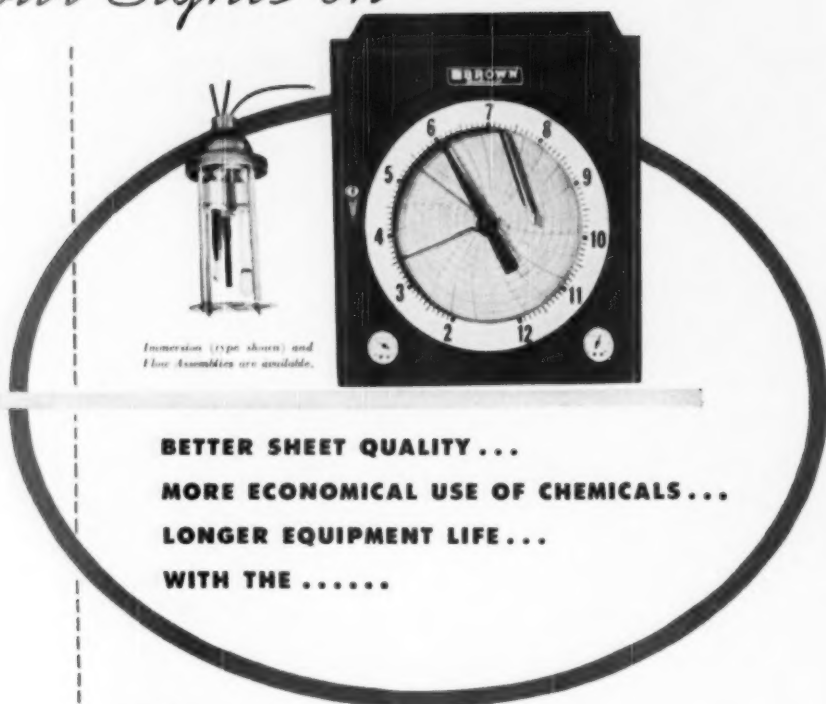




Set Your Sights on



*Immersion (type shown) and
Flow Assemblies are available.*

**BETTER SHEET QUALITY ...
MORE ECONOMICAL USE OF CHEMICALS ...
LONGER EQUIPMENT LIFE ...
WITH THE**

Electronik pH CONTROLLER

With tonnage-versus-cost as a moving target, many mill operators are loading their guns with extra ammunition . . . by providing control for every important variable. In such cases, automatic pH control is gaining recognition as a cost reduction factor . . . and justly so! Proper control of pH can have startling results. It is vital to sheet quality, to the conservation of chemicals and to the useful life of paper making equipment.

The sensitivity and speedy response of the *Electronik* pH Controller are responsible for the records it is setting in the paper industry. It is particularly valuable in the control of white water, stock, raw water treatment and waste disposal.

Call in your local Honeywell engineer for a discussion of its application to your processes . . . he is as near as your phone!

Write, today, for a copy of Data Sheet 2.9-33.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
INDUSTRIAL DIVISION

4438 Wayne Ave., Philadelphia 44, Pa.

Offices in 77 principal cities of the United States, Canada and throughout the world

Specialized Instrumentation
FOR THE PAPER INDUSTRY

Lyddon & Co.

*Exporters of
wood pulp to all
world markets*

**PULP
PAPER**

*Parsons and
Whittemore*

Paper Exporters

Wood Pulp

• A World-wide Organization •

10 EAST 40TH STREET, NEW YORK 16. N. Y.

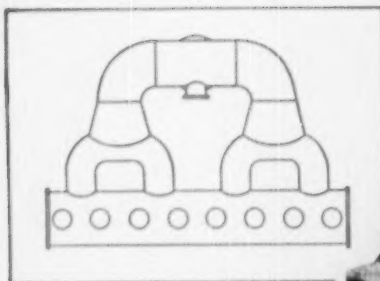
**LONDON
SOUSSE**

**PARIS
MONTREAL**

**ZURICH
BUENOS AIRES**

STOCKHOLM

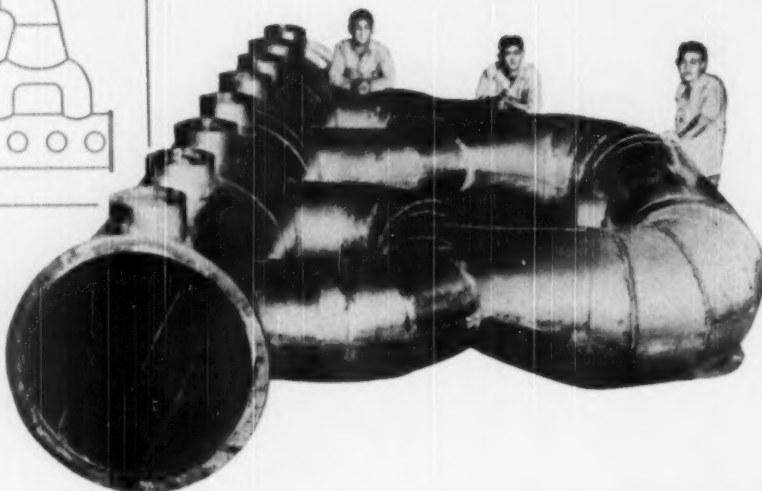
**OSLO
SAO PAULO**



Header assembly for connecting paper machine fan pump to primary header in a large Southern paper mill. Orbits are 30" in diameter at widest points, and the assembly is more than 200" in overall length.

"35" Monel sheet, from .078" to .125" thick, was used throughout. The satin smooth finish forms the interior surfaces... stays smooth... never gives slime and flows a thumb to 8 g in.

The header assembly was fabricated by W. L. RIVES CO., INC., 87 Riverside Viaduct, Jacksonville 4, Florida.



Rustproof, easy-to-form MONEL simplifies tough stock-line jobs!

In the header assembly pictured above, *workability* as well as resistance to slime and corrosion were the important considerations in selecting a metal for the job.

The fabricator—W. L. Rives Co., Inc. of Jacksonville, Florida—and the paper mill engineers agreed on *Monel*®, thereby minimizing fabrication problems and insuring important economies for the paper mill.

Monel's ready workability keeps fabricating costs low. And Monel's high strength makes possible the use of light-gauge metal. In addition to savings on material costs, the lighter-weight assemblies are less costly to ship and easier to install.

More important still... Monel's exceptional resistance to corrosion and sliming promises important savings for years to

come because of lower upkeep and replacement expense.

For these reasons—corrosion-resistance, workability, high strength—Monel has long been recommended by many of the nation's leading fabricators and machine builders... for head boxes, doctor blades, screens, save-alls, jordan bars, winding wire, rolls, and roll covers.

If you are looking for mill equipment that will give long trouble-free, economical service, write today for the address of your nearest fabricator specializing in Monel and other long-wearing Inco Nickel alloys.

Remember, too... we always welcome an opportunity to help you solve corrosion and metal fabrication problems.

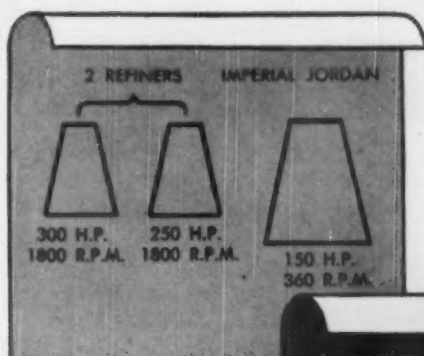
*Reg. U. S. Pat. Off.



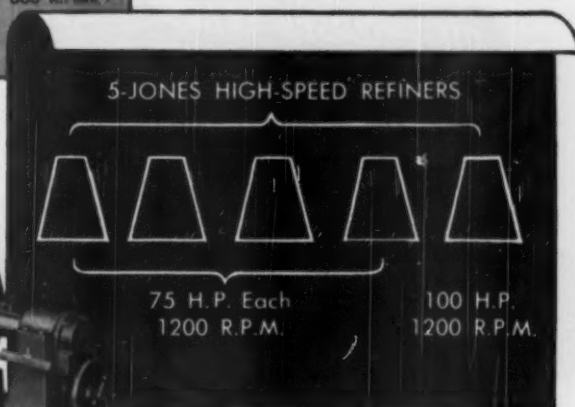
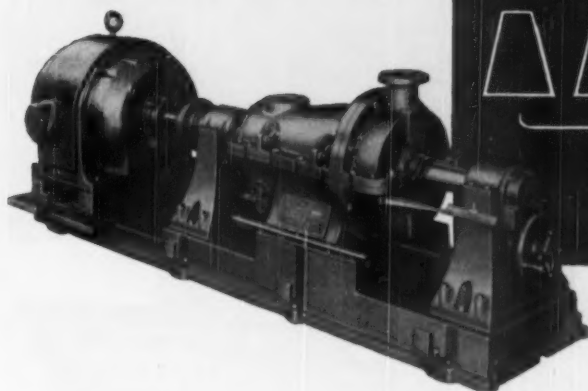
THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall St., New York 5, N. Y.

MONEL*...for Minimum Maintenance

*Better Control
More flexibility
better preparation*



OLD INSTALLATION



NEW INSTALLATION

The refining equipment replaced (in this actual Jones installation) by Jones High-Speed Refiners was not old or obsolete or worn-out equipment. It represented some of the best current competitive thinking.

Yet Jones High-Speed Refiners actually produced improved stock — at a saving of over 300 operating horsepower. They save on maintenance cost, too. For more information, write for Bulletin EDJ-1011-A.

E.D. Jones

E. D. Jones & Sons Company, Pittsfield, Mass.

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

April 1950



with the new Camachine *Commander*

A VERSATILE, NEW HIGH-SPEED SLITTER-REWINDER
FOR MILLS, MANUFACTURERS AND CONVERTING PLANTS

THE NEW COMMANDER truly represents one of the greatest advances in Cameron's half century of specialization in slitter-rewinder engineering. Cameron experience and imagination have blended in the *Commander* to provide new high speeds, new trouble-free dependability, and new features for top quality roll production at new low costs.

Makers and users of plain, waxed, gummed and coated papers or paper board will find the *Commander* a highly profitable addition to plant production facilities.

Among the outstanding features of the new *Commander* are the following:

The *Camachine Pneucut* pneumatic slitters allow pressure on the entire line of cutters to be controlled from a single point. Pneumatically controlled pressure assures cleaner cutting through longer runs, with no time lost for separate cutter adjustments. Shear cut units may be specified.

The main drive unit is now completely enclosed for safety, while the main

drive shaft outboard bearing support has been made an integral unit of the main frame, assuring exact alignment.

All gearing is now completely enclosed and running in a bath of oil, for longer life and added safety.

You'll like the new style of the *Commander* too. It's a good-looking machine to have on the floor, and it pays off day after day in fast, high quality, trouble-free production. You are invited to send for complete information.

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

... *the world over*

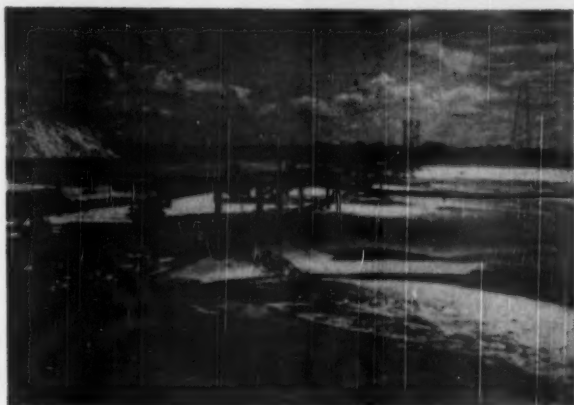
CAMERON MACHINE COMPANY • 61 POPLAR STREET • BROOKLYN 2, N. Y.

PACIFIC COAST SUPPLY COMPANY • PUBLIC SERVICE BUILDING, PORTLAND 4, ORE. • 342 SANSOME STREET, SAN FRANCISCO 19, CAL.

SULPHUR

***Interesting Facts Concerning This Basic
Raw Material from the Gulf Coast Region**

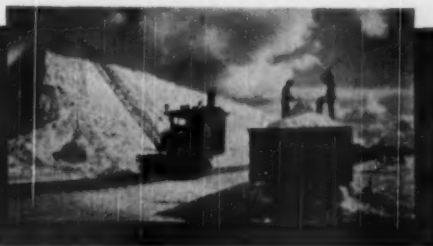
***MAN MADE MOUNTAINS**




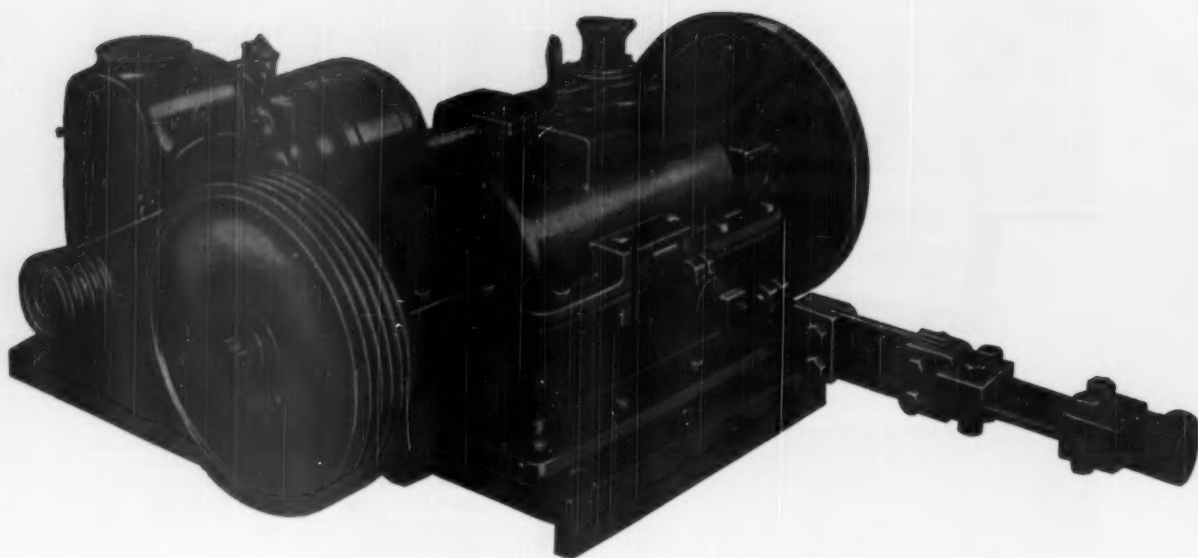
Sulphur from the field collecting stations is delivered to the vats through insulated pipe lines which discharge directly on the vats. The sulphur is pumped at such a rate that the height of the vat is increased only a few inches per day, the slight vertical rise being the result of a large horizontal area which provides maximum cooling surface and ample tonnage capacity. As the sulphur solidifies it gradually builds up into a great block or vat of solid sulphur, which may be as large as 1200 feet long, 50 feet high, and 200 feet wide, and containing as much as half a million tons of sulphur.

The discharge lines are placed so that the liquid sulphur is spread in an even layer over the entire surface of the vat and is permitted to solidify uniformly. If the liquid sulphur is introduced too rapidly or is not properly distributed, pockets of liquid sulphur will be covered by a crust and remain in the solid sulphur. The low heat-conductivity of sulphur might keep such pockets liquid for a year or more.

Loading operations at one of the huge vats of Sulphur at our Newgulf, Texas mine. Such mountains of Sulphur are constantly being built at our mines, from which shipments are continually made.



TEXAS GULF  SULPHUR CO. INC.
75 East 45th St. New York 17, N. Y.
Mines: Newgulf and Moss Bluff, Texas



SIMPLEX SHAKES

This Bagley and Sewall Simplex Shake is based on an eccentric with a strap directly connected to the fourdrinier. The eccentricity and amount of stroke are easily controlled by the mere turning of a crank. Adjustment of the stroke can be made while the machine is running.

By the installation of one or more of these units varying degrees of shake are possible at different points along the forming table, giving control of stock and consequent improved formation on the wire.

This Simplex Shake is compact, self-contained, easily adjusted.

When in need of new equipment, get in touch with us. Our sales engineers will gladly discuss your problems with you.

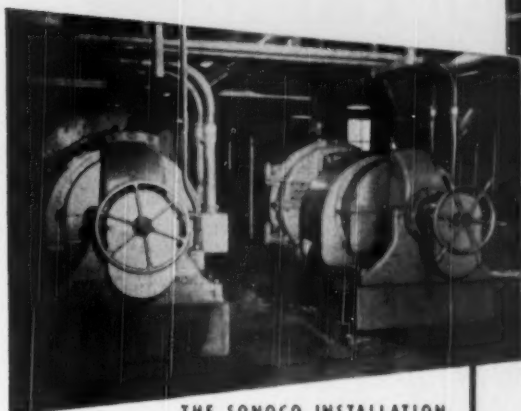
BAGLEY & SEWALL

DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY

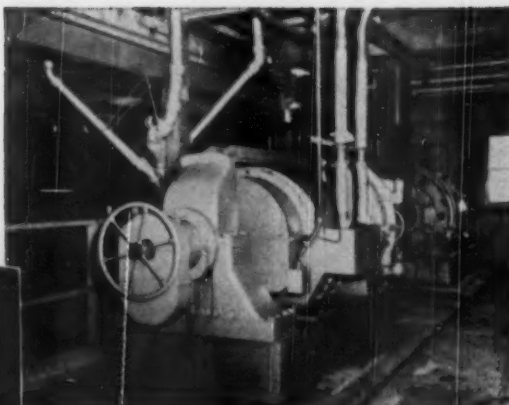
Foreign Representative: Castle and Overton, Inc.
630 Fifth Avenue, Rockefeller Center
New York, New York

WATERTOWN, NEW YORK

Mills that compare Refiners



THE SONOCO INSTALLATION
Hartsville, S. C.
Showing Sprout-Waldron Refiners
for Semi-Chemical Pulping

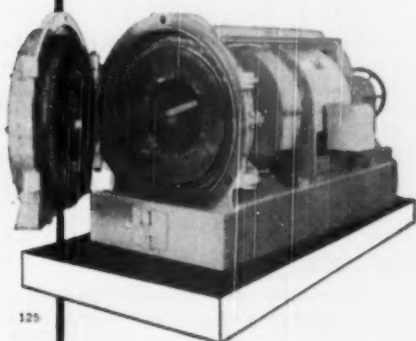


choose

Sprout-Waldron

The many recent installations of Sprout-Waldron Refiners for semi-chemical pulping prove—that Sprout-Waldron Refiners are definitely preferred for this type of operation

S/W Refiners do a wide variety of jobs—all of them thoroughly and economically. Here are some applications: refining kraft, soda, and sulphite knoter and fine screen rejects; hogged bull screen rejects; knoter and second screen rejects of raw groundwood; semi-chemical chips of all kinds; spent chips after extraction process; bagasse, straw, and similar grasses; breaking down lumps in reclaimed waste paper stock; reduction and refining of rag and other half stocks, etc., etc.



125

April 1950

But these rugged, precision engineered Refiners can do **any** kind of pulping—do it well and with great economy.

Their exclusive peripheral control ring feature provides great flexibility of adjustment, so that you can produce a wide variety of pulp characteristics. With the S/W Refiner you can pinpoint exact pulp requirements.

Initial investment is comparatively low, and inexpensive long-life plates are available in many styles. High production rates; economy in power consumption; ease of operation, adjustment, and maintenance give you other important advantages.

Our representative will be glad to explain how Sprout-Waldron Refiners can increase your output and save operating costs . . . or let us send you our Bulletin R-748. Address Sprout, Waldron & Co., Inc., 32 Waldron Street, Muncy, Penna.

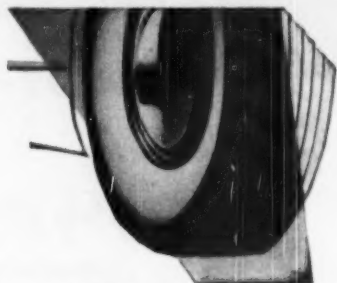
Sprout-Waldron

Manufacturing Engineers

SINCE 1866
MUNCY, PENNSYLVANIA



HOW TREES ARE MAKING TIRES LAST LONGER



OTHER USES FOR WOOD CELLULOSE

Our research staff has developed a number of types of highly purified wood cellulose to give best results in the manufacture of the many end products made from it.

For making viscose rayon yarn for textiles, we supply a product with the brand name, "INCOLOR"



Acetate fibers and yarns are made from a Rayonier product branded "RAYACETA"



Cellophane is made from still another type of purified wood cellulose—"RAYAMO"



Many research accomplishments have, over a period of years, improved the wearing qualities of automobile and truck tires.

None, perhaps, is more important than the adoption of viscose rayon tire cord and fabric. Highly purified cellulose—derived by chemically processing wood—is a basic raw material for making these strong, tough cords.

When synthetic rubber tires for heavy duty were introduced, use of viscose tire cord was essential to withstand heat and fatigue. Today, these high-strength yarns are used to lengthen the life of both natural and synthetic rubber tires—for passenger cars as well as for trucks and buses.

Rayonier does not make tires or tire cord. We do make the highly purified wood cellulose used by the textile industry in producing viscose rayon cords and fabrics for the tire manufacturers. This cellulose—known by the brand name "RAYOCORD"—was developed by our research staff specifically for this purpose.

RAYONIER

INCORPORATED

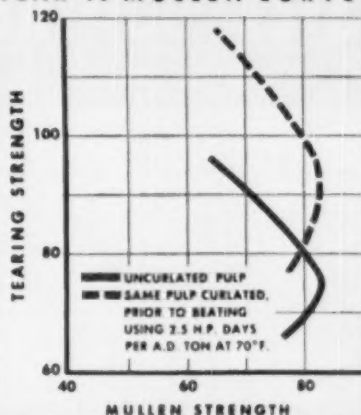
EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, New York • MILLS: Hoquiam, Port Angeles, Shelton, Washington; Fernandina, Florida

PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

Curlators Are Proving Their Value

Effect of Curlation prior to beating on the tear-mullen relationship during beating of a previously undried northern unbleached sulphite pulp.

TEAR vs MULLEN CURVE



Note: Tear at maximum mullen of uncurlated pulp is 75, of curled pulp 99.

Description of testing procedures employed by the Curlator Corporation Laboratory will be furnished upon request.

TEST DATA

	HP/DI*	FREENESS	MULLEN	TEAR	DENSIMETER
UNCURLATED PULP	0	840	66.8	93	13
	1	810	77.6	83	34
	2	764	80.8	77	95
	3	672	84.0	75	260
	4	615	81.5	74	580
	5	521	70.8	60	1330
	7	394	66.5	55	3750
	9	285	64.6	54	5660
PREVIOUSLY CURLATED PULP	0	836	66.2	117	3
	1	770	82.8	95	23
	2	688	80.2	81	123
	3	575	76.8	72	360
	5	390	71.7	67	2640
	7	270	55.0	48	8280

*H. P. DAYS PER A. D. TON SPENT IN BEATING ONLY.

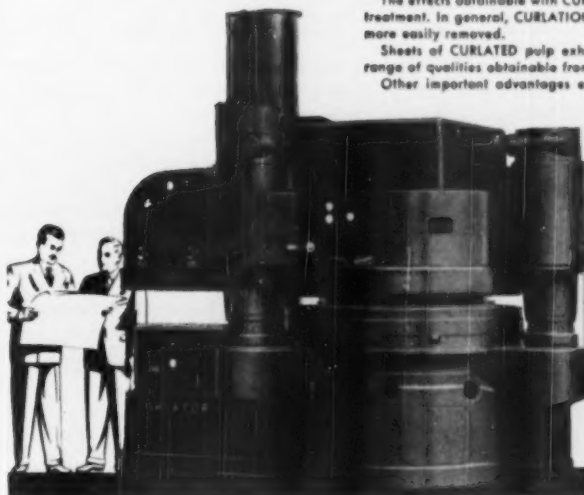
CURLATION is a new mechanical process for improving pulp properties, fully tested and thoroughly proved. Curlation not only produces a permanent change in the shape of pulp fibres, but also exerts a powerful de-shiving action, with negligible change in freeness.

The effects obtainable with CURLATION vary widely with the raw material and the conditions of treatment. In general, CURLATION tends to produce an easier beating pulp from which water is more easily removed.

Sheets of CURLATED pulp exhibit a more even textured matte appearance. In addition, the range of qualities obtainable from a given pulp is broadened.

Other important advantages exist . . . WRITE for new bulletin C-2 on the C-50 CURLATOR.

The CURLATOR is a tool for altering the properties of pulp and paper to obtain qualities hitherto unavailable by mechanical means. The effects of CURLATION vary with the raw material and may be described only in relation to a particular pulp.



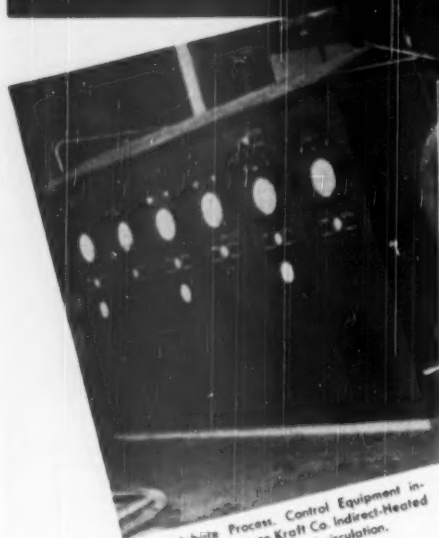
CURLATOR[®]

Corporation

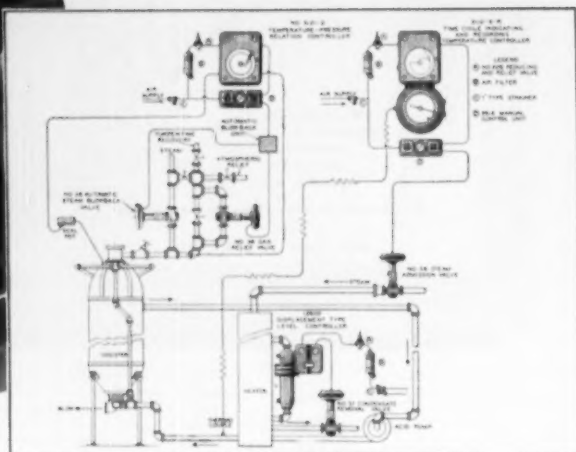
543 BLOSSOM ROAD • ROCHESTER 10, NEW YORK

*T. M. Reg.—Curlator Corporation, Rochester, N. Y.

YOU GET *Increased Tonnage,* More Uniform Cooks with **MASONEILAN DIGESTER CONTROLS**



Sulphite Process Control Equipment installed at Maron Kraft Co. Indirect-Heated Digesters having forced circulation.



Masoneilan Digester Controls eliminate the guesswork from the cooking process. They produce better, more uniform pulp at lower manufacturing cost. Once a cycle is determined, these automatic controls will repeat any selected program time after time.

Look at the advantages you get with Masoneilan Digester Controls —

- Consistently uniform pulp
- Low percentage of rejections
- Uniformity from cook to cook
- Low steam consumption
- Uniform steam consumption
- Improved gas recovery
- Greater production of pulp

- Higher pulp strength
- Lower bleaching costs
- Standard Packaged Panel Units

Investigate Masoneilan Digester Controls and other specialized equipment for better pulp and paper production.

MASONEILAN

MASON-NEILAN REGULATOR CO.
1181 ADAMS STREET, BOSTON 24, MASS.

Sales Offices or Distributors in the Following Cities:
New York • Syracuse • Chicago • St. Louis • Philadelphia • Houston
Denver • Pittsburgh • Cleveland • Cincinnati • Tulsa • Atlanta
Los Angeles • San Francisco • Salt Lake City • El Paso • Boise
Albuquerque • Detroit • Charlotte, N. C.
Mason-Neilan Regulator Co., Ltd., Montreal and Toronto

TRENTWELD TUBING

helps

cut costs

Cutaway view of Trentweld Large Diameter Tubing in "SSC" Exchanger

The new Ross "SSC" Exchanger, designed and built by Ross Heater and Mfg. Company, Inc., is a low cost, all stainless steel, exchanger. It is significant that in this interesting development TRENTWELD was included among the important components: TRENTWELD Large Diameter Tubing forms the shell, while the condenser tubes are TRENTWELD Full Finished.

More and more manufacturers are looking to TRENTWELD for the answer to their stainless steel tubing application problems. That's because TRENTWELD is made in a *tube mill* by *tube engineers* . . . who roll and weld stainless and high alloy tubing exclusively.

Our staff of metallurgists and engineers can help you apply stainless steel tubing to your equipment—better! Try TRENTWELD! One call from you puts our years of experience at your call.

TRENT TUBE COMPANY

subsidiary of Crucible Steel Company of America

General offices and plant: East Troy, Wisconsin

Sales office: Chicago — 4501 West Cortland

New York — Chrysler Building

TRENTWELD

STAINLESS STEEL TUBING

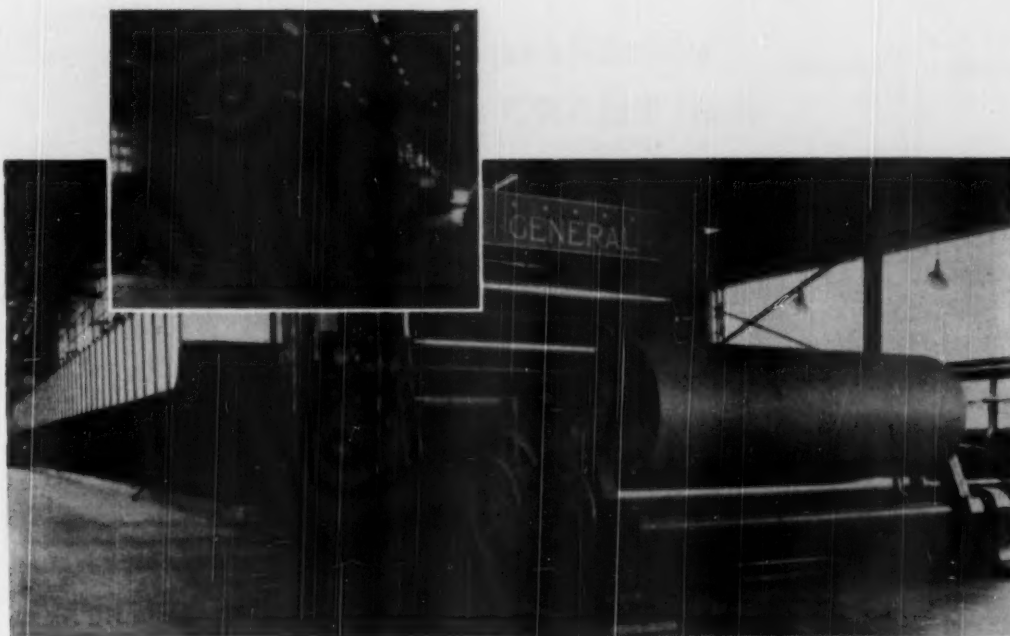


Puget Pulp is among the leaders in forest conservation—not only through planned logging and reforestation, but through more complete utilization of the logs. Modern hydraulic barkers and chippers get about 20% more pulp out of a given amount of wood, and "waste" liquors are made into industrial alcohol and its by-product, Lignosite, a valuable material used in improving concrete and for many other purposes. Here efficiency and ingenuity safeguard America's natural resources.

PUGET SOUND

PULP & TIMBER COMPANY

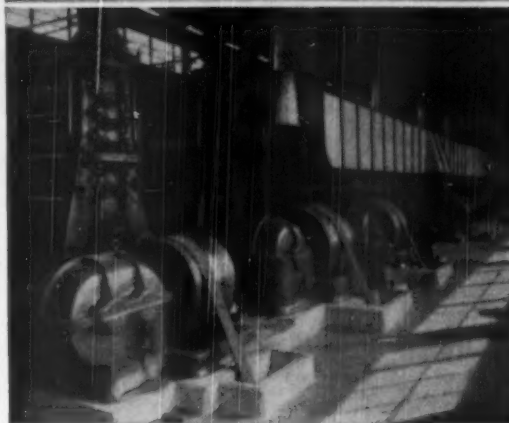
BELLINGHAM • WASHINGTON



ULTRA MODERN FROM END TO END

Ultramodern 146" five-cylinder Black-Clawson board machine, with B-C "HYDRONAMIC" Inlet on all five vats, recently built for the Fairfield Paper & Container Company, Baltimore, Ohio. Ultimate speed 600 feet per minute.

Preparatory equipment ahead of the paper machine, featuring Hydrapulpers, HYDRAFINERS, Selectifier screens and remote control operation, by Shartle-Dilts.



The BLACK-CLAWSON Co. HAMILTON, OHIO

DIVISIONS:

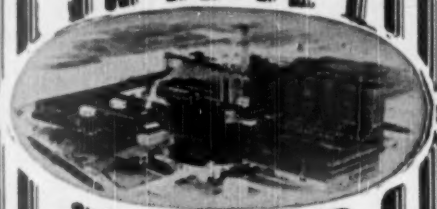
SHARTLE BROS. MACHINE CO., Middletown, Ohio
DILTS MACHINE WORKS, Fulton, New York



Western Sales Office: Mayer Bldg., Portland, Oregon
Associate: ALEXANDER FLECK LIMITED, Ottawa, Canada
Subsidiary: B-C INTERNATIONAL, LTD., 16 Catherine Place,
Victoria, London S.W. 1, England

April 1950

SOUNDVIEW



High Grade
**BLEACHED
SULPHITE PULP**

SOUNDVIEW PULP COMPANY
EVERETT WASHINGTON



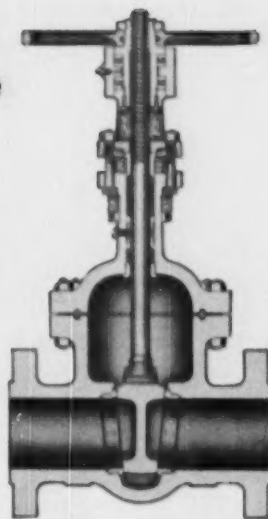
To standardize most profitably Look to the complete CRANE line

PERFECT FOR HIGH-PRESSURE PAPER MILL INSTALLATIONS

For high pressure services, such as on barkers, count on Crane 600-Pound Cast Steel Wedge Gates for the most dependable performance. Body and bonnet are unusually rugged. Straight-through ports minimize turbulence, erosion, and resistance to flow. Ring-type bonnet joint assures maximum strength and tightness.

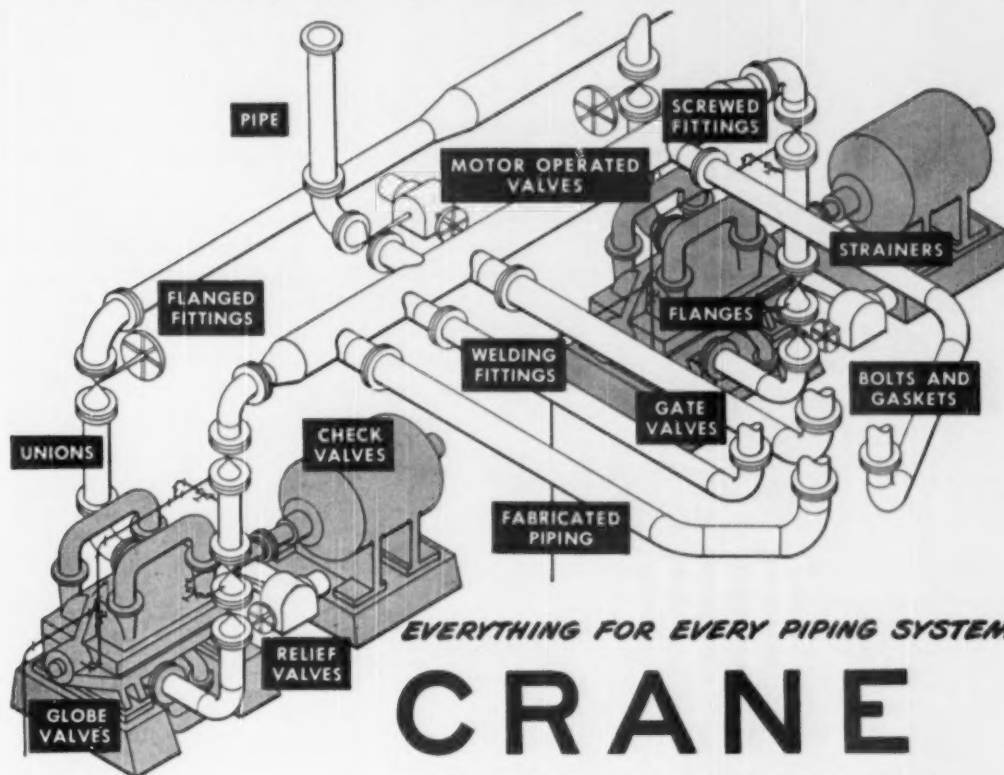
Solid wedge disc is accurately guided in travel to maintain positive seating and reduce wear on body seat rings. Rings are screwed, shoulder type; no danger of loosening in service. Sturdy "T"-head disc-stem connection prevents side strains on stem. Complete Crane line of Carbon or Alloy Steel valves includes a wide range of sizes, in pressure classes up to 2500 pounds and for steam temperatures up to 1000° F. Flanged, screwed, or welding ends. See your No. 49 Crane Catalog.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas



No. 76XR, 600-Pound Steel Gate. For steam or water up to 850° F.; Exelloy to Nickel-Alloy Seating. Sizes: 2 to 24-inch.

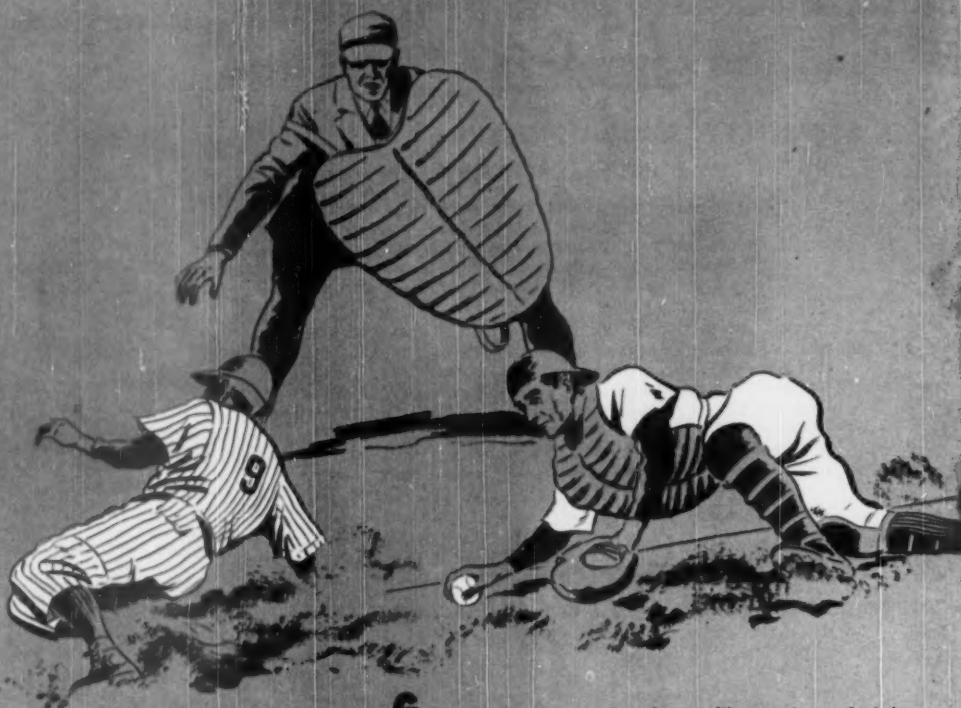
● THIS HYDRAULIC BARKER PIPING, FOR EXAMPLE,
CAN BE COMPLETELY EQUIPPED ON ONE ORDER TO CRANE



EVERYTHING FOR EVERY PIPING SYSTEM

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING



Safe at home

Getting a run across the plate is like getting a freight shipment to its destination safely and on time.

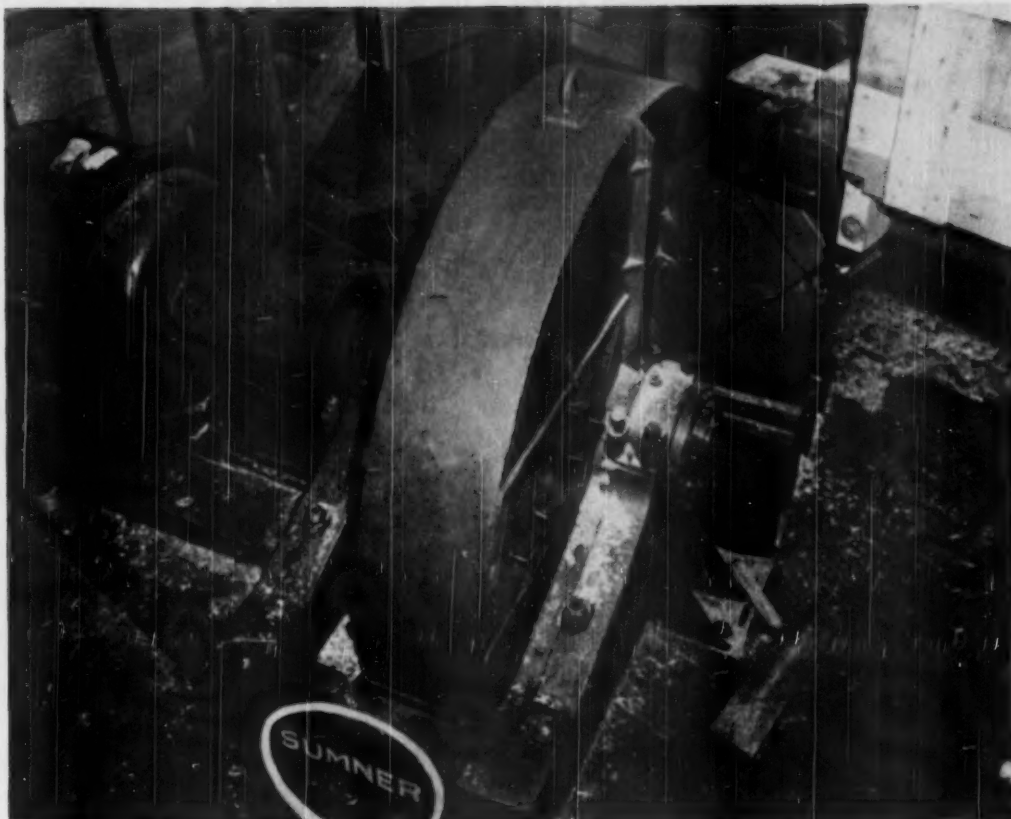
As in baseball, it takes organization and teamwork to get results. It takes a hard-hitting group of experienced men.

Union Pacific also provides the equipment and facilities to expedite your freight. Dieselized motive power, new classification yards that cut switching time in half, and electrified central traffic control are among the recent major improvements which assure shippers of fast, efficient service.

We won't be satisfied until all shippers who patronize our railroad can sincerely say "That Union Pacific is a great outfit."



BE SPECIFIC: *Ship* UNION PACIFIC



A RELIABLE SOURCE OF CLEAN, UNIFORM CHIPS: THE **(SUMNER)** CHIPPER...

To many progressive pulp and paper mill operators on the Pacific Coast, the installation of a Sumner CHIPPER in nearby sawmills is recognized as an economic advantage of several facets.

For one, it provides a new and steady source of uniform chips for pulping purposes and a new by-product for sawmills. Second, it illustrates a more efficient utilization of clean waste mill wood, which formerly had been burned. Third, it is a factual demonstration of timber conservation, as it relieves a pulp mill's dependence on its standing timber as the only source of raw material.

That these points are well taken is illustrated in the above picture of a Sumner 72" EIGHT KNIFE CHIPPER at Weyerhaeuser's Lumber Division operations in Everett—an organization widely recognized as a pioneer in the demonstrative practice of timber conservation and waste utilization.

April 1950

Sumner CHIPPERS are precision-made of the finest materials, having alloy steel arbors and recognized industrial-type tapered roller bearings. All parts of the disc subject to wear are renewable. Spouts are of special design with correct cutting angles and fitted with double anvils. Power is by direct drive, by coupling or by V-belt or flat-belt drive.

Detailed information on all Sumner CHIPPERS will be gladly furnished on request.



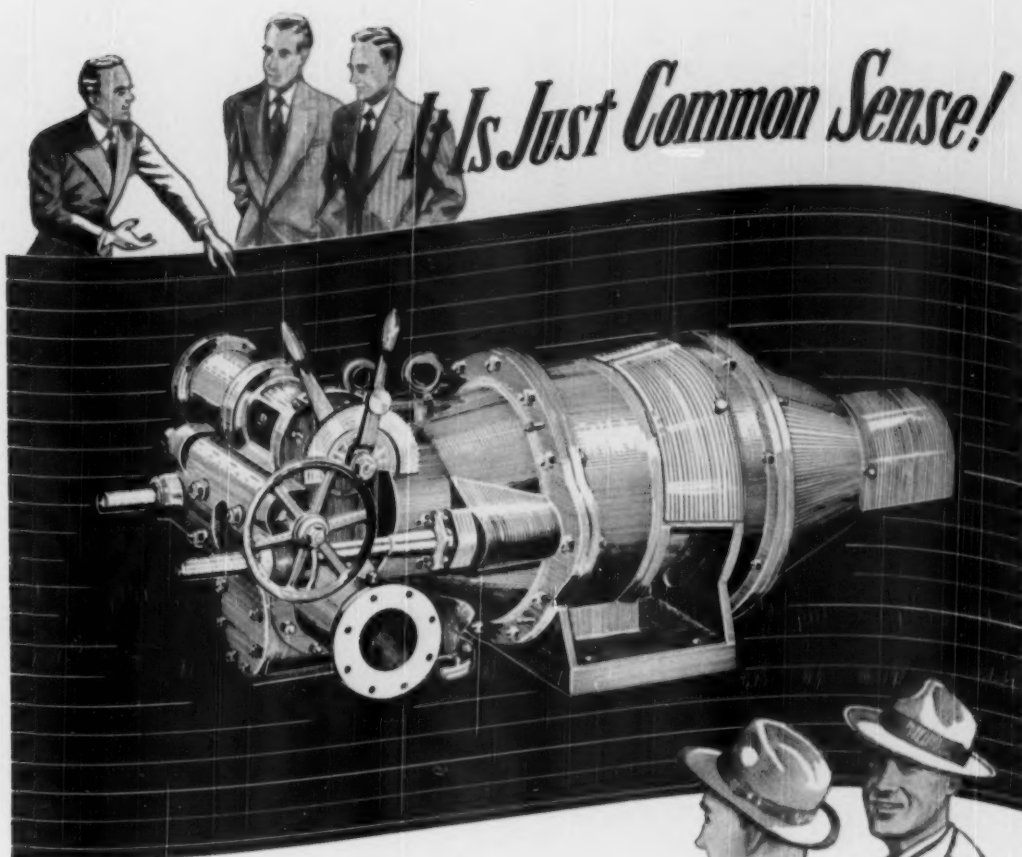
POWELL RIVER



STRENGTH
COLOR
SERVICE
DEPENDABLE
SUPPLY

**POWELL RIVER
SALES COMPANY
LIMITED**

408 STANDARD BUILDING - VANCOUVER, B.C.



The way

the Morden "Stock-Maker" combines beating or refining into one simple and continuous operation.

More than 350 "Stock-Makers" in over 100 mills have proven its superiority for the vast majority of stock treatment requirements.



May we assist you in surveying
"Stock-Maker's" advantages
for your particular requirements?

MORDEN MACHINES COMPANY

PACIFIC BUILDING • PORTLAND • OREGON

in Canada

The William Kennedy & Sons, Ltd., Owen Sound, Ontario

in England

Millsaugh, Limited, Sheffield

Eastern Sales Representative: Union Machine Company, Fitchburg, Massachusetts.

April 1950

17



ST. REGIS PAPER COMPANY REPORTS ON 1949

SUMMARY OF CONSOLIDATED INCOME FOR THE YEARS ENDED DECEMBER 31, 1949 AND 1948

	1949	1948
Net Sales, Royalties, and Rentals	\$127,335,591.23	\$162,672,925.94
Cost of Sales and Expenses	113,719,146.39	138,402,144.86
Operating Income	8,616,444.84	24,270,781.08
Income Credits	1,641,767.12	1,144,219.13
Gross Income	10,258,211.96	25,415,000.21
Income Charges	2,191,684.18	1,455,297.85
Net Income Before Provision for Federal and Foreign Income Taxes	8,066,527.78	23,959,702.36
Provision for Federal and Foreign Income Taxes	2,588,325.08	9,042,499.64
Net Income Before Deduction of Minority Interests	5,478,202.70	14,917,202.72
Deduct equity of minority holders of subsidiary's common stock in income	—	57,400.15
Net Income	5,478,202.70	14,859,802.57
Dividends Paid: Preferred Stock	\$ 793,575	\$ 823,208
Common Stock	3,102,428	4,136,571

Provisions for depreciation and depletion charged against income amounted to \$5,376,929 for 1949, and \$4,568,416 for 1948.

ST. REGIS PAPER COMPANY

230 Park Avenue, New York 17, N. Y.

Offices in Principal Cities. In Canada: St. Regis Paper Co. (Can.) Ltd., Montreal

Products—Multiwall Bags and Bag Filling Machines . . . Printing, Publication and Converting Papers . . . Bleached and Unbleached Kraft Paper and Board . . . Bleached and Unbleached Kraft Pulp . . . Panclyte Laminated Plastics.



WELDING PIPE FITTINGS OF STAINLESS STEEL...

in regular and special analyses

HERE are precision made fittings that give you stronger, lighter joints, accurately aligned, easily installed, and free from costly maintenance. They are made in both butt weld and socket weld types, in 90° and 45° elbows, 180° returns, tees, caps, reducers, laterals, crosses, and lap joint stub ends.

Sizes range from 1" to 14". Larger sizes are made to special order, and special shapes and types are made to engineering specifications.

To combat corrosive agents of various kinds, a selection of both standard and special analyses is available. One of these in all probability will fit the special need in your plant. Inquiries involving any corrosive problem are welcome. See your nearest ESCO representative or write us directly, giving details of corrosive agents used, their concentrations, temperatures and pressures. For dimensional data on ESCO Welding pipe fittings fill in and mail the coupon.

ESCO

STAINLESS AND HIGH ALLOY STEELS

ELECTRIC STEEL FOUNDRY

2166 N. W. 25th Avenue, Portland 10, Oregon

SALES OFFICES AND WAREHOUSES:

CHICAGO, ILL.	LOS ANGELES, CALIF.
EUGENE, OREGON	NEW YORK CITY, N. Y.
HONOLULU, T. H.	SAN FRANCISCO, CALIF.
HOUSTON, TEXAS	SEATTLE, WASH.
	SPOKANE, WASH.

IN CANADA — **ESCO** LIMITED, VANCOUVER, B. C.

ELECTRIC STEEL FOUNDRY

2166 N. W. 25th Avenue, Portland 10, Oregon.

Please send dimensional data on ESCO welding pipe fittings.

Name _____

Company _____

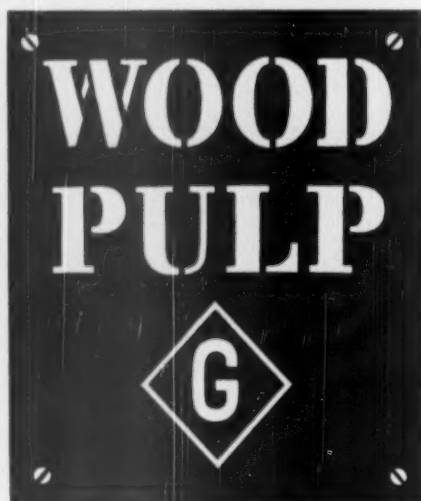
Address _____

City _____

Zone _____

State _____

Established 1886



"Look beneath the surface; let not
the several quality of a thing nor its
worth escape thee."

MARCUS AURELIUS

You will find us a most useful resource,
whatever your requirements in Bleached
and Unbleached Softwood and Hardwood
Sulphites, Sulphates and Groundwood—
Domestic or Imported.

Exceptional facilities of international scope
and 64 years of intensive association with
the Pulp and Paper Industry have equipped
us to serve you well.



GOTTESMAN & COMPANY

— INCORPORATED —

22 EAST 40th STREET • NEW YORK 16, N. Y.
EUROPEAN OFFICES: Birger Jarlgatan 8, Stockholm, Sweden

PULP & PAPER

APRIL 1950
Vol. 24 No. 4
Member Audit Bureau of Circulations
Contents copyrighted, 1950

ABC

The Production and Management Journal Covering North America's Wood Pulp, Paper, Paperboard and Cellulose Industries

by MILLER FREEMAN PUBLICATIONS, INC.

CHARLES L. SHAW Canadian Editorial Director
NARD JONES Associate Editor
WILLIAM J. KRIBBS Associate Editor
ROBERT E. WALTERS Associate Editor
ALVIN C. KLOTZ Field Editor

MILLER FREEMAN, JR. President
LAWRENCE K. SMITH Manager
ALBERT WILSON Editor
LUCILE AYERS Assistant Editor
MILLER FREEMAN, JR. Circulation Manager

PRINCIPAL OFFICES: NEW YORK CITY—370 Lexington Ave. (17), Tel. Murray Hill 3-9295 (Nard Jones; M. F. Rosworth, Business representative; Virginia Moonagh, Readers and Adv. Service).

NEW ORLEANS: 305 Baronne St. (12); Telephone RAYmond 4760 (W. J. Krebs).
CHICAGO: 5410 Berteau Avenue (41); Telephone AVenue 3-1392 (Robert E. Walters).
VANCOUVER, B. C.: 675 W. Hastings St., Telephone MARine 1570 (Chas. L. Shaw).
SEATTLE: 71 Columbia St. (4); MAIn 1426 (Publishing Office); (L. K. Smith, Albert Wilson, Lucile Ayers).

OTHER OFFICES—Louis Blackerby, 524 E. W. 3rd Av., Portland 4, Ore.; Bo. 6348—Stuart Leste, 121 2nd St., San Francisco 5, Ca. 1-5887—Arthur Ponsford, 124 W. 4th St., Los Angeles 13, Ma. 8194.

SUBSCRIPTION Inc. North American Review Number—\$3 for 1 yr. and \$5 for 2 yrs. in U. S., Canada, Mexico and other Pan American Union nations (\$4 for 1 yr. and \$7 for 2 yrs. in other countries).

That U. S. Government Suit Against DuPont

Not many people in this industry are aware of how important to the future of wood pulp is the lawsuit which the U. S. government has brought against the Du Pont Company, charging it with "monopolizing" the cellophane business.

The newly appointed Supreme Court Justice Tom C. Clark, when attorney general, launched the suit in a statement in which he conceded Du Pont is not making all of the cellophane in the country, but about two-thirds of it.

The first cellophane was made in this country in 1924—just 25 years ago—when Du Pont acquired a French process, used primarily up to that time for making millinery decoration. No one could possibly foresee the tremendous acceptance of cellophane as a sales-inspiring "dress" for whatever products it packages.

Today cellophane plants use over 100,000 tons of wood pulp annually and with frozen foods and other food products as a vital new potential market for cellophane, this use would increase.

However, the government suit halted expansion for a long time until DuPont finally licensed Olin Industries.

Du Pont Company and other producers for some time delayed definite plans they had made to increase their production by as much as 20% and with these present government monopoly suits and other so-called anti-monopoly actions, there is certain to be some hesitancy to build, add wealth and employment in newsprint and other fields. The first cellophane plant on the Pacific Coast was a very real possibility before the protracted law suit of the Truman administration. Already it has been nearly two years since the suit was filed.

Du Pont has repeatedly stated that the cellophane field is open for anyone who is willing to risk the large plant investment which this business requires.

It is certainly a deep, dark mystery as to what benefit there can be from the government's suit. No one seems to know who stands to gain by it.

Certainly the American public won't gain anything. Nor any new company or group that anyone has heard about. But this government is convinced its political position can be strengthened by any kind of prosecution of "big business."

A lot of the voters which it would like to woo by this suit are in the pulp industry. It is high time that the thousands who earn their livelihood in the great pulp mills from Washington to Maine realize what this government suit against Du Pont has cost them in dollars and cents.

Mills which make viscose rayon or cellophane pulp, by identical processes up to a point might have to turn to other markets, or other pulp mills might venture in the cellophane field, etc.—depending, it seems, on lack or presence of government interference, as well as on the old healthier influences, such as their technical ability and what the market wants. So every market pulp mill employe in North America has a real stake in this Du Pont suit, and perhaps similarly the paper industry employes have a stake in the newsprint "monopoly" investigation.

News on DuPont-licensed Ecusta-Olin cellophane plant developments at Pisgah Forest, N. C., on pages 24 and 53.

"Pulp and paper is a stable industry. In 1932, low year for all industries—the U. S. employment index for pulp and paper was 83.5 (based on 100 in 1923) and for all manufactures it was 60.4."—E. W. Tinker, Exec. Sec'y., American Paper & Pulp Ass'n.

Authors' Rights Jeopardized

A large and important segment of the pulp and paper industry depends upon the welfare of the publishing industry—publishers of books and magazines—and thus to the people who contribute material to the publishers. With ever rising costs, many publishers, particularly book publishers, show a profit only through the sale of foreign rights.

It is therefore of curious interest that recently the State Department made a treaty with Nationalist China which included a clause giving the Chinese the right to freely help themselves for a space of four years to any work of American authorship, copyrighted or not! Fortunately, the Authors League discovered the deal in time and the clause was modified. And it is true that only a principle was involved, because the Chinese have been pirating U. S. book and magazine material for years, and Nationalist China is pretty much a theoretical state now.

But published work is a property—like trees, like a mill, like finished products. Ownership is involved. It is interesting to know that the State Department feels it has the authority to give away private property to foreigners. We detect this same trend among certain sections of the United Nations.

This industry ought to watch it carefully.

IN THIS ISSUE—

Late News Bulletins	22	Machintender	54
Cover Picture Story	22	Munchausen	67
Wisconsin Pollution Problem	23	Calcasieu Expansion	68
Ecusta-Olin News	24 and 53	What Europe Needs by J. E. Atchison	68
APPA CONVENTION and AFTER	25	Settled Market for Pulp	72
MACON KRAFT CO. MILL	28	NCC Mills Add Units	74
Pulp Importers Reply to Magnuson	38	Maine Foundation	74
New Arkansas Mill	40	Keady Heads Marathon	76
Canadian Pollution	40	PULPWOOD SECTION:	
Sturgeon Falls Semi-Chemical Plant	44	Paper Week Wood Sessions	56
FRASER COS.' NEWCASTLE MILL	48	Southern Ass'n Meets	58
		Spruce Falls Operations	60
		PERSONAL NEWS:	
		Mill Men	41-78-69
		Supply-Equipment Men	55

Our Next Issue will be the annual NORTH AMERICAN REVIEW NUMBER—containing latest statistics on the Entire Industry.

Double Tissue Output at "Kap"

Kimberly-Clark's creped wadding plant at Kapuskasing, Ont., to double capacity as part of \$3,000,000 expansion. One machine there now; has 30 tons a day capacity. Available pulp from K-C's sulfite mill at "Kap" and kraft mill at Terrace, Ont. (Longlac). Most recent K-C wadding machine additions—two at Memphis since '48.

South Plans More Newsprint

Southern Newspaper Publishers Association, who spark-plugged new Coosa River Newsprint Co., now in operation in Alabama, sets sights for another mill target to add more pine newsprint for South. At mid-winter meeting in Birmingham, Ala., directors discuss proposals; plan to spot new mill site.

"Longfibre" Continues Perfect Safety Record

Longview Fibre Co., Longview, Wash., continues extending perfect safety records, reaching 2,000,000 man-hours without lost time accident March 13 (221 days), according to Boyd Wickwire, personnel manager. This second biggest paper mill in Far West U. S. shoots for industry record of 3,300,000 man-hours made in Maine. Already holder of Washington state governor's award for safest mill in state, it is also already assured of a National Safety Council award.

New Coated Paper Machine in Texas

Entirely new "on-machine coating" 1200 f.p.m. 135-inch quality paper machine starts production in March at Houston Division (Pasadena, Tex.) of Champion Paper & Fibre Co. using Southern pine (bleached kraft and groundwood). Adds 60-70 tons a day; mill capacity upped to 350. Two machines previously moved South from Hamilton (O.) Division; Houston now has three Fourdriniers, one cylinder. Four machinery builders supplied parts of new machine engineered by Champion's staff. New supercalender installed by Appleton Machine.

Five Southerners Now on Potlatch Staff

William P. Davis, president and general manager of Potlatch Forests, Inc., and himself from South, has four-star staff of Southern industry veterans assisting him in planning-engineering new Potlatch kraft pulp-paper mill being built on Clearwater River, Lewiston, Idaho. As announced here last month, Roland Wilber, ex-manager, new Southern Paperboard mill, Savannah, is manager of PFT's new pulp and paper division. Joseph Betts is chief engineer; Otis B. Smith, resident engineer; Jerome Pettigrew, electrical engineer. Like Mr. Davis, these three are ex-I.P. Co. engineers, worked on several Southern Kraft mills. Potlatch concrete foundations now in, mill rising alongside Potlatch lumber and plywood mills. New general office for all Potlatch officials near completion on grounds (present offices in town of Lewiston).

May Add Mill to Pollution Order

Coos Bay Pulp Corp., sulfite pulp mill advised it may be added to four Washington state mills (Rayonier, Hoquiam; Weyerhaeuser, Everett; Soundview, Everett; Crown Zellerbach, Caman) mandatorily ordered by State Pollution Commission to "substantially complete" waste liquor control facilities by Sept. 2, 1951. Officials of Coos Bay (Scott Paper subsidiary) first knew of their possible inclusion when they read it in newspapers—after commission heard many times made, and many times challenged, charges of Padilla Bay pollution by oyster man. Commission also rejected Weyerhaeuser Timber Co. request for extension of deadline, while still working out "bugs" in MgO recovery plant at Longview.

Container Corporation Expansion

Container Corp. of America directors authorize new paper machine for Los Angeles plant and new plant to make folding cartons and shipping containers at Portland, Ore.

Hawkesbury Makes Additions

Canadian International Paper Co. starts \$1,000,000 additions to bleached sulfite pulp mill at Hawkesbury, Ont., including filtering, sedimentation basins, underground mixing tanks.

Soda Recovery for New York-Penn.

New York and Pennsylvania Co., New York, to install Combustion Engineering 150-ton soda recovery plant at Johnsonburg, Pa., mill, says Mr. A. G. Paine II, secretary. "It simply replaces rotary furnace. No basic change involved." Design and erection by Rust Engineering, Pittsburgh. Black liquor firing. Steel-brick-tile plant, 5 to 7 stories, 40x70 ft. ground area.

World's Record Believed Set—Outside Kraft

World's record for single mill production—outside kraft—believed set at Powell River Co., Powell River, B. C.—1,021.4 tons off eight machines in 24-hour run Feb. 22. (I. P. Southern Kraft's Georgetown, S. C., mill now rates 1,470,000 tons capacity and three other kraft mills rate higher—1,360,000 at I.P., Bastrop, La.; 1,185,000 at I. P., Springhill, La., and 1,085,000 at Union Bag, Savannah). Powell River's new No. 8 newsprint machine made 206.1 tons on record day but its own record is 207.8 on Sept. 20 1949.



Our Cover Picture:

In our cover picture (a small replica above), junior veterinary student, Henry D. Bither of Cornell University, Ithaca, N. Y., demonstrates the latest technique in dairy sanitation. Before each milking he washes and massages each cow's udder and teats with a clean single-service new type paper cow towel, developed by Brown Company, which helps prevent transfer of dirt and bacteria from one cow to another.

Instructing Mr. Bither are (left) Dr. H. G. Hodges, supervising veterinarian, and Dr. M. G. Fincher, director of the New York State Mastitis Research and Control Program and head of the department of medicine and obstetrics of the Veterinary College of Cornell. The new product is expected to help reduce the \$800,000,000 yearly loss now suffered from bovine mastitis and, incidentally, to greatly increase the paper towel sales for Brown Company.

To provide milk for children of employees at its La Tuque Kraft mill in Quebec, Brown Corp. (Canadian subsidiary) established a dairy farm there in 1922. One day in 1934 when an assistant neglected to launder the dairy's cloth towels, the superintendent substituted some of the company's wet strength paper hand towels made especially for hard usage in institutions and industry. The Brown dairy, one of the outstanding Holstein-Friesian herds in North America, continued the experiment when herdsmen suggested they make a new type of towel for dairy cow sanitation.

Brown technicians developed a special purpose cellulose cow towel with high absorbent qualities, nearly twice as strong when wet as any similar product hitherto manufactured, they said, soft and lint-free in use.

Virtues of the individual paper cow towels, according to vets are: They are inexpensive enough for the largest or smallest herd; there is little chance of spreading infection; the soft product massages a cow's udder as well as cloth towels do, for ready milk let-down and prevention of injury in mechanical milking; they are easily disposed, and the single-service factor eliminates sterilization, laundering and drying necessary with cloth.

One Mill—Not Two As Reported Planned by Ida.-Mont. P. & P. Co.

Funds amounting to some \$2,000,000 are now registered under the Securities and Exchange Commission in the name of the Idaho-Montana Pulp & Paper Co., and all of these funds are allocated toward a proposed new groundwood pulp mill to be built in Polson, Mont.

This disposes of unfounded rumors which have been published (not in PULP & PAPER) to the effect that this company plans to build mills in both Polson and Coeur d'Alene, Idaho. Company officials hold out hope that it will be possible to start construction on the long-planned Polson mill sometime during 1950. In successive order, it had been planned for sulfite pulp, then for kraft, but now sponsors have settled on groundwood. L. A. DeGuere, of Wisconsin Rapids, Wis., is consulting engineer and all inquiries regarding equipment and construction should be addressed to him.

WISCONSIN ORDERS MAY CLOSE INTERLAKE MILL

No one close to the Wisconsin sulfite pulp problems of recent months has questioned that the conservationists were dead serious about gaining stream abatement results at any industry costs.

This is reflected in orders, issued under Wisconsin law, by the State Committee on Water Pollution and State Board of Health, released Feb. 21, telling six mills what, when and how these mills must comply.

The Kimberly-Clark Corp., operating a bookpaper and sulfite pulp mill at Kimberly, Wis., is ordered to "reduce the average daily waste sulfite liquor pollution of the Fox River by not less than 40% of the average daily contribution during the period July 1, 1948, to Nov. 30, 1948, said reduction to be accomplished by not later than July 1, 1950."

This part of the edict brings to the fore the drastic measures the state of Wisconsin stands ready to take. In its order, the committee recognizes that Kimberly-Clark may cut back its production in order to comply with the state, rather than immediately spend an amount like \$2 million for not-fully-proven disposal processes. The order gives K-C the choice of cutting back its discharge, production, and thereby its discharge, or hastily installing possible uneconomic disposal facilities.

At the time of the Green Bay hearing in December, 1949, Henry A. Rothchild, technical director for Kimberly-Clark, told the committee that the Kimberly, Wis., mill has a capacity of 300 tons of book paper per day and the pulp mill a daily capacity of 135 tons of sulfite pulp, with most of the pulp being used in the paper mill. The pulp division at Kimberly employs 120 persons.

If the firm cuts back its production by no more than the 40% minimum it would probably have to lay off 30 to 40 employees.

Observers closely allied with the Wisconsin pulp industry are wondering if the question of the wisdom of closing down industries by July to attain pollution abatement may not get a going-over from persons more affected by payrolls than by fish in the sportsmen's creels. So far the sports crowd, organized as it is, has made the most clamor.

Considers Closing Interlake

The state committee, in its legal-style phrasing, openly recognized its order to the Consolidated Water Power and Paper Co., for its Interlake mill at Appleton, might shut down this mill permanently by the end of 1950, or at the very latest 1951. However, it did imply it is leaving open the choice of reducing production or installing facilities, but did not mention

a 40% figure as it did with Kimberly.

In referring to its order on the Interlake mill, the committee noted previous testimony that Consolidated's Interlake sulfite pulp producing equipment is in dire need of repair and that major facilities are obsolete; that the management considers "discontinuing operations at Interlake."

The new state orders are somewhat different for the Hoberg and Northern mills at Green Bay. These firms testified they desired to stay in business under reasonable acts and costs and offered to select and submit plans for sulfite disposal not later than Dec. 31, 1950, with construction of a chosen system to be completed one year later. The state order follows this offer quite closely.

However, new experimental-stage or unproved disposal plants in Newfoundland, Oregon and Washington, plus entirely different experiments carried on by the Sulfite Research League in Wisconsin, plus recent European developments, have left the industry in a quandary. What mills should select what systems? It is a question that involves loss of savings of millions of dollars—if the wrong or right plant is chosen—but state orders have made it a race against time.

In a sort of a preamble to its orders, the Wisconsin committee takes cognizance of different processes for partially eliminating pulp pollution effluents but throws the whole thing in the laps of the mills.

Committee Warns of Further Restriction

One clause in all of the orders to the mills will probably gray more hairs of management. Though not worded exactly

alike in each instance, it says the same thing: "These provisions are subject to such further order as the committee may issue relative to additional reduction of pollution."

Thus, a plant costing in the millions, might only temporarily satisfy the state committee.

This Feb. 21 order applies to six mills with various clauses to fit the individual plants. Two main classes of river pollution come under scrutiny. One, the dumping of waste sulfite effluent and, two, the discharge of wood fibers. The mills and the committee are in close agreement on point two.

The same conservationists who have been driving hardest at the pulp industry, are demanding that the state stop farmers from allowing cattle to wade in streams. This hits at a large dairy-conscious Wisconsin population.

At the same time, the mayors of Neenah and Menasha are requesting more time to comply with orders demanding enlargement of their sewage systems, a request once denied.

Some see in this ever-widening scope of the pollution-abatement drive, the possibility that the time limitations might be made less drastic and confining, when more and more groups find themselves faced with the problem.

Here is a digest of the Wisconsin state orders to six mills, directly quoted:

KIMBERLY-CLARK CORP., Kimberly:

1. Arrange for re-piping of its "wet room" to reduce discharge of wood fiber to a practicable minimum by July 1, 1950.
2. Reduce the average daily waste sulfite liquor pollution of Fox River by not less than 40% of the average daily contribution during

YEAST PLANT MUST CUT COSTS

With member mills still giving consideration to adopting the torula yeast process for diverting spent sulfite liquor from Wisconsin and Middle West streams, \$62,200 additional money has been contributed by 12 sulfite pulp mills in the Wisconsin Sulfite Mfrs. Research League for further experimentation.

The money goes to the Lake States Yeast Corp. Rhinelander plant for improved processing machinery. After 15 months trial, the need for further reducing costs of producing the stock feed is evident to operators.

Lowered costs for money-making purposes is not the objective, but the owners want to explore every possibility that will enable them to operate in competitive feed markets without incurring undue losses that might otherwise make the adoption of this system prohibitive. Some of the money will go to developing cooling-water systems that will drop operating expenses.

Technical men operating the plant have opened new avenues of approach to several phases and they want to put these into test-practice.

At the Green Bay, Wis., pollution hearing in December, testimony was that for the first 14-month operational period all yeast made was sold for 11 cents per pound. During that period the plant lost \$37,947.95.

Spokesmen for the mills expect prices for yeast delivery in 1950 will drop to slightly under 10 cents per pound. Eastern agents, who handle sale of the yeast, conducted a survey which indicated a probable sale price of only 4½ cents per pound is all sulfite mills can expect, when and if torula yeast batches were produced.

On a short term operating accounting, the experimental plant did show a tiny gain in profits three months of last year, but this is expected to disappear with price reductions. Hence the mills are trying to find ways of reducing costs.

It was estimated that the Kimberly, Wis., mill's entry for example, into the torula yeast field would drop the price on a competitive market to about 8 cents, and if this should be true, the operation of a yeast plant for a year at this mill would lose the operators \$200,000.

the period July 1-Nov. 30, 1948; to be accomplished by July 1, 1950.

3. Complete installation of storage tank, or tanks, to equalize release to river of remaining waste sulfite liquor to eliminate peak loads by Sept. 1, 1950.

4. Foregoing provisions are subject to such further order as committee may issue relative to additional reduction of sulfite liquor pollution.

CONSOLIDATED'S MILL, Appleton

1. By Dec. 31, 1950, submit plans and specifications providing for utilization or treatment methods or other effective means of reducing pollution of Fox River by waste sulfite liquor.

2. Construction in accordance with said plans and specifications be completed by Dec. 31, 1951, with this provision subject to such further order as the committee may issue following receipt of plans.

HOBERG PAPER MILLS AND NORTHERN PAPER MILLS, Green Bay:

1. Complete installation of fiber recovery equipment by Dec. 31, 1950.

2. By Dec. 31, 1950, submit plans and specifications providing for utilization or treatment methods or other effective means of reducing pollution of Fox River by waste sulfite liquor.

3. Construction in accordance with said plans and specifications be completed by Dec. 31,

1951, with this provision subject to such further order as committee may issue following receipt of plans.

GREEN BAY PAPER & PULP CO OF GREEN BAY (Neutral sulfite semichemical mill):

1. So operate its present facilities as to reduce pollution of Fox River by wastes to a practicable minimum.

2. Submit by June 1, 1950, a report setting forth information on characteristics and quantity of effluent discharged to river.

3. Foregoing provisions subject to such further orders as committee may issue following receipt of report.

THILMANY PULP & PAPER CO. AT KAUKAUNA (Kraft):

1. Continue with and complete present program for reduction of industrial wastes by modernization and installation of save-all equipment, detection and elimination of leaks, and segregation and isolation of objectionable wastes, by Nov. 1, 1950.

2. Alter existing sanitary sewer system as promptly as practicable before Nov. 1, 1950, so all sanitary sewage will be discharged into the municipal sewerage system.

3. Enter into full scale experiments on feasibility of disposing of remaining objectionable industrial wastes in municipal sewage disposal plant, reporting progress to committee at intervals of not less than six months.

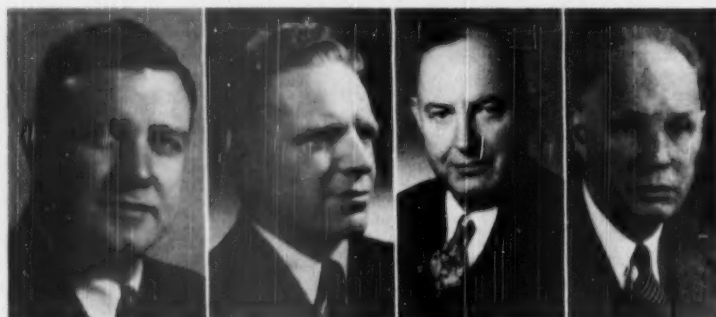
NEW POSTS FOR THESE MEN



RAY BENNETT (left), has become General Manager of new Ecusta-Olin operations at Ecusta Paper Corp., Pisgah Forest, N. C. Olin Industries bought Ecusta and will put in cellophane plant with help of present staff. Mr. Bennett succeeds BURT KASSING, who resigned Feb. 1.



JOSEPH E. SCHEUERMANN (right), and his long-time associate and assistant when they were with Cameron Machine, TOM N. CARTER, have joined Bagley & Sewall Co., Watertown, N. Y., and will handle development and sales of B & S Slitting, Winding, Laminating and Converting Machinery Division.



IN INDUSTRY NEWS THIS MONTH (L to R):

W. C. R. JONES, who has been appointed Mill Manager for Columbia Cellulose Co., with a dissolving pulp mill under construction at Watson Island, near Prince Rupert, B. C.

DR. JOSEPH EDWARDS, recently appointed Manager of the Paper Division, Price Brothers & Co., Resident at Kenogami, Que. Formerly of Alberto, Dr. Edwards was instrumental in development of the curlator in sulfite pulp process.

CLYDE W. GRAY has recently been appointed Executive Vice President of Stowe-Woodward, Inc., Newton Upper Falls, Mass. An engineering graduate of the U. of Kentucky, he comes from Ford, Bacon & Davis, industrial engineers, for whom he served as general manager of their atomic bomb operations at Oak Ridge, Tenn. in 1944-45.

LAURENCE W. SHATTUCK, appointed General Supt. of Strathmore mills at West Springfield and Woranaco, Mass. He was stepped up from assistant to Vice President in Charge of Production. He has come up through various Strathmore jobs since joining the company in 1913.

HOBERG ORDERS NEW NO. 1 MACHINE

Nearly \$3,000,000 will be spent by Hoberg Paper Mills, Inc., Green Bay, Wis., for a new paper machine, new laboratory, a pollution abatement plant (details to be decided later), and other improvements, according to J. M. Conway, president and general manager. Projects are to be completed by the end of 1951.

A new warehouse, new storeroom, rebuilding of No. 2 paper machine, new combustion control and over-fire facilities in Division "B" boiler plant for better smoke control, improvements in the sulfite mill, additional save-alls for both A and B divisions, are planned.

The new machine will be by Beloit Iron Works, to produce another 12,000 tons of Charmin tissue annually, beginning July 1, 1951. It will be No. 1, the original No. 1 having been dismantled years ago.

Mr. Conway said that plans for a pollution abatement plant costing \$1,250,000 will be completed by the end of 1950. A satisfactory solution for partial abatement is already assured, he said. Complete plans will be presented to the State Pollution Committee, and if approved, construction will begin.

Streamlining of the converting department is planned, with most machines replaced by modern continuous re-winders. The old vacated boiler house in Division A will be remodeled as a warehouse or for maintenance.

Additional car loading area is planned. Pallet loading and storage of pulp has already been inaugurated, with purchase of Towmotor and Yale trucks, equipped with hydraulic lifts, also used with recently installed Hydrapulpers at Division A. Instead of an individual beater for each paper machine, two Hydrapulpers will service all five paper machines in Division A.

Portland, Ore., Mill Deferred

Plans for construction of a paper mill in Portland, Ore., by The Pioneer-Flintkote Co. have been deferred, according to Los Angeles headquarters officials, but eventually a paper machine may be added in Portland. Pioneer-Flintkote has a roofing plant there and recently announced some additions to those facilities.

Changes in Olin-Ecusta Setup; Bennett Becomes General Mgr.

As reported in previous issues of PULP & PAPER, the Ecusta Paper Corp., flax-cigarette paper mill key personnel who are retained by the Olin Industries, Inc., new owners of Ecusta properties at Pisgah Forest, N. C., to build the new wood pulp using cellophane plant there.

Raymond Bennett, Ecusta's former general superintendent and a past president of the Superintendents Association, has been made general manager. He succeeds Burt Kassing, who resigned Feb. 1.

Thomas E. Ramsey succeeded Mr. Bennett as general superintendent; Clyde G. Jones became assistant general superintendent.

William P. Jordan, former Ecusta manager of maintenance and engineering, resigned and accepted a position with an engineering company which is building paper mill abroad.



RICHARD G. CROFT (left), has been elected Chairman of the Board, Great Northern Paper Co., where he has been a director since 1946. He is also a partner of J. H. Whitney & Co., N. Y., and a director of Harbison-Walker Refractories Co., Pittsburgh.



R. O. SWEZEY (right), Montreal financier, is promoting Edmonton Pulp & Paper Mills project in Alberta. He has signed agreement with Alberta government whereby timber concessions will be granted in return for guarantee that construction of the planned \$10,000,000 newsprint mill will start by next July.

WORLD PLANNING

An Enlightened Industry Makes Plans, Too

Fitting the Pieces Together After the "Paper Week" APPA Meetings in New York in Late February

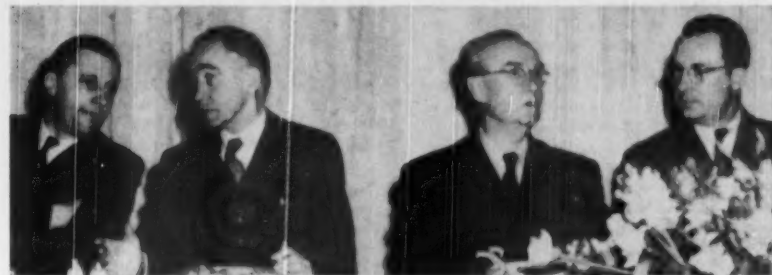


STARS OF STARLIGHT ROOF

These speakers initiated a new Paper Week feature in February—a General Meeting on the Waldorf's roof in New York. (L. to R.): VERTREES YOUNG, Vice Pres. of Gaylord Container Corp., Bagdad, La., a forester who turned to manufacturing, too, talking on his favorite subject—care and use of forests; MALCOLM WHYTE, Milwaukee attorney, who discussed effects of tariffs high and low in advice to paper industry; JOHN BURKE, of Glens Falls, N. Y., AFL union chief who discussed relation of labor and industry. WILLIAM BECKETT, pictured elsewhere, spoke for Pulp Consumers. D. K. BROWN, Pres. of Neenah Paper Co., chairmanned the new event.



AT PULP CONSUMERS LUNCHEON which looks like a fixture for Paper Week in New York since its debut in 1949—Officers and guests from Europe on ECA sponsored tour (L. to R.): WILLIAM (BILL) BECKETT, Executive Vice President, Beckett Paper Co., Hamilton, O., was re-elected President of Association of Pulp Consumers; T. TROMP, Director of paper mill in Nijmegen, Holland; ROBERT EVANS, Director of Purchases, Riegel Paper Corp., New York, was re-elected Vice President, Association of Pulp Consumers; WALTER BRECHT, Director of Institute of Paper Chemistry, Darmstadt, Germany; and KARL CLAUSON, re-elected Executive Secretary.



AT PAPER WEEK in New York (L. to R.): GERARD EMILE ESCARFILL, General Manager of Molin-Vieux mill in France, gets some first-hand, up-to-the-minute information on the American industry from E. W. (Ted) TINKER, Executive Secretary, APPA; while HANS ALBERT SALZER, Supervisor of Salzer's Sehn mill in Austria, is in discussion with W. P. COPPINGER of ECA.

MORE IN THE AIR THAN "PULP"

Among the pulp men—including producers, sellers, and buyers—Senator Warren A. Magnuson, Democrat from Washington State, was a subject for an unscheduled discussion both in closed meetings and Waldorf hallways throughout the week. The situation grew out of an interview in this magazine (February issue) where the Senator made statements which in the eyes of others led to a conclusion that has been traditional in financial and business circles—that is, that the Senator felt the North American wood pulp industry was again threatened as a result of devaluation of currencies. This attitude is deep-rooted in the experience suffered in the Thirties. That it is an opinion now at variance with a majority views of the industry has been plain, but objections expressed during "Paper Week" were with the statements of fact as the Senator saw them.

Our interviewer was interviewing Magnuson as a Senator from the No. 1 pulp producing State, just returned from Sweden; a Senator who has been a strong supporter of constructive projects in the Pacific Northwest, and who has a way of appearing on important national commit-

tees.

Nevertheless, and understandably, the majority of the industry men at "Paper Week" looked straight through the Senator and focused on his statements. At least for the period of present conditions, industry welfare was tied tightly to an opposite conclusion. One crystallization of this majority view had been prepared by L. Keville Larson, sales manager, pulp division of Weyerhaeuser Timber Co., after checking it with a great number of industry men, each considered informed in his segment of the industry. The paper was revised after these conferences and then given audience at a meeting of the Writing Paper Association in October.

He wanted to put in two separate columns the known favorable information and the known unfavorable conditions and facts and figuratively add them up for the fairest possible conclusion as to the pulp industry's health. As other segments of the industry studied Mr. Larson's data and consulted with their own facts and beliefs and prejudices they came to a point where a majority of the industry, in almost all its parts, agreed. Individual mills were burning midnight oil, as well.

But Mr. Larson's conclusion, with its attending data, was the first to be published to the industry.

Inasmuch as this "national policy" was optimistic for the immediate future, Senator Magnuson's statements excited immediate reaction from the U. S. and Swedish industry alike. The American Importers Association were most directly concerned, and so chose to answer the senator. This answer is on page 38 and those who visited "Paper Week" realize that the two articles are more than a debate between the Senator and the Importers.

The senator's conclusions from a trip to Sweden revived memories for allpulp men who have been at work for 25 years or more. They knew the reason for the quick watchfulness; they saw now that 20 years could not quite destroy it, for there had been the slow capturing of the unbleached sulfite market, the transfer of newsprint to Canada, and now the yet unanswered questions about devaluation and lower tariffs. But Magnuson's report, the majority believed, was dated and irrelevant; and it had come at a time for celebration: This was the first time in many peace years that APPA and the industry (although more complicated and

sub-divided than ever) appeared to be enjoying an almost unanimous conclusion on a difficult subject. They now were prepared to live and work in a new continent insofar as woodpulp was concerned. Asked by a reporter for this magazine to describe the new situation, a leader in the industry did so. "It really is more different than a few in the industry realize. In only 20 years the center of world pulp production has moved from Europe to North America. Before the war, Europe produced eight percent more pulp than the U. S. and Canada. Just in 1948 we found we were producing twice as much as the foreigners, and there are good men here who will say we will grow even stronger because North America is the only place where increased pulp capacity can be achieved."

Asked if over-expansion is a threat, the mill representative said "We are no nearer now to excess capacity problems than in 1939. From now on, it seems to me, competition will occur within the country, and not from abroad. Exports? No matter how optimistic the government may be, I believe exports will decline."

Was this, then, the rough outline of the faith and the reasons therefore? The man at the Waldorf said there were many other supports, but the main one, he said, was an actuality: the shifting of the power of pulpwood, the control of things right here in North America. "The secret of it," he went on, "is that the industry has grown up now, and is ready to plan on the long view. More and more mills are coming to it, and when you see that, you know it has to mean the industry is getting together."

When you had that with you and went your way listening to fragments of speeches, you realized that the minority opinion and the "national industry" view had some things in common. Walking from room to room, you knew that all the regions that make up the industry had the same unwillingness to try to peer beyond a year or maybe, if a man was reckless, two. Plainly few mill executives worried much about the Scandinavian countries as of now; and if one worried it was in the fear that the Swedes might not be able to ship enough—which in turn meant that the worrier was a consumer (or even a pulp producer) and what they hoped for most was a stable market.



W. S. ZIMMERMAN, who worked his way up from office boy to executive Vice Pres. of Howard Smith Paper Mills Co. Inc., is President of the Writing Paper Mfrs. Association, important affiliate of APPA. His election was announced at New York convention. His office in Franklin, O., and Howard mills are there and also at Dayton and Urbana.

The APPA men knew that it is not always enough to be big and in control; because in all the maneuvering of world politics the U. S. government might put

into the hands of some pygmy a weapon that could fell the giant. There was yet no fair test on devaluation because last September the currency adjustments came head-on into a strong economic revival: yet CPPA men in Canada admitted feeling it, and properly defended it as consideration for investments to their mills against a real scarcity. The new tariffs had not tested the industry yet. But at Paper Week, working feverishly in the glow from the President's point 4, were OIT men of the Department of Commerce, whipping up international trade. Many a pulp and paper man learned for the first time that the State Department ran the tariff meetings and that United Nations could suggest participants. Clearly there was more in the air at Paper Week than the Scandinavian pulp situation, important as that is for both producers and consumers. Obviously, an enlightened industry knew this and had certain general plans. Only time would tell whether the overall plan was adequate or even correct.

DEVALUATION AND TARIFF CUTS

No doubt but what the most burning questions to all factors at the Waldorf, from producer through to consumer and integrated mills, were those involving tariffs and devaluation and attendant aspects of international trade. Cola G. Parker, president of Kimberly-Clark, took a broad view in world terms, as befits the outgoing president of APPA. In his talk Mr. Parker emphasized "It is clear that the deficit position of the government is inflationary. And among deflationary influences, because pulp and paper are world market commodities, are the general currency depreciation of last Fall, the further reduction of tariffs resulting from the Anney agreement."

Against these threats, however, Mr. Parker set the industry's assurance for a good year ahead, based on past record and growing strength, indicating a steady industry on the long pull."

The ubiquitous Ted Tinker, executive secretary of APPA, told those assembled at the luncheon of the Salesmen's Association of the Paper Industry (where Alan B. Helffrich had passed the presidency to

Daniel H. Keck of Kimberly-Clark) "We need your understanding and cooperation on issues of national concern . . . as an illustration, take the grave concern regarding moves to change tariff structure. This does not mean," he assured the salesmen, "that we are opposed to increased international trade; but we had assumed that those in administrative authority would want to take action only in the light of full information. We have the data and information, and if you will use it as you go your rounds it will help greatly toward public knowledge in the welfare of our whole industry."

Beckett's Discussion

Many at the Waldorf felt the most engaging, yet solid, discussion of tariffs and currency was given by William Beckett, executive vice-president of the Beckett Paper Co., Hamilton, O., and head of the American Pulp Consumers. In a speech at the new APPA session, a general meeting on the Starlight Roof he began by "assuming we are all mainly interested in whether tariffs will make us richer or poorer." He then went on to recall that papermakers, no less than mankind everywhere, are fiercely proud of their own beliefs, however wrong these may be "in some cases." Whereupon he admitted suspicion that he himself, even when confronted with facts of experience and reason, demonstrated this type of inflexibility.

Mr. Beckett contended that he was "strongly persuaded by arguments for free trade, because I feel that in the long run free trade stimulates efficiency and production, and that barriers have the ultimate effect of restricting imports." He admitted that the protected industry might benefit, but the period of its benefit was unpredictable.

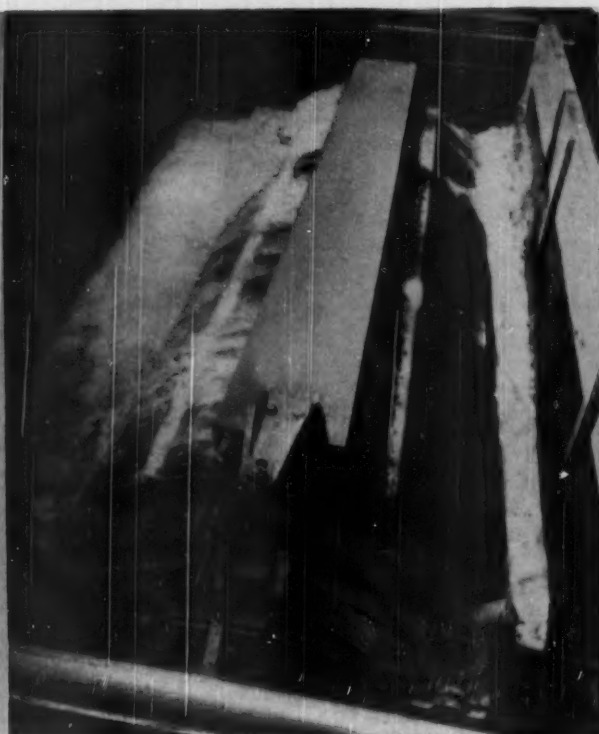
"The U. S. paper industry is now faced with further reductions on paper from

(Continued on page 70)



PARTICIPANTS AT PAPER WEEK in New York included (L. to R.): JAMES COGHILL, Vice President, Curlator Corp., Rochester, N. Y.; D. MANSON SUTHERLAND, President, Sutherland Refiner Corp., Trenton, N. J. (his two sons Douglas and Lionel also attended); J. M. WILCOX, Manager, Process Equipment Div., Electric Steel Foundry Co., Portland, Ore.; H. F. SCHENK, Magnus Metals Corp., Pittsburg, Mass.; HAROLD W. BURROWS, Manager, Roll & Tank Lining Sales, Raybestos-Manhattan, Inc., Passaic, N. J.; and F. A. EIDNESS, Inflica, Inc., Chicago, Ill. Mr. Wilcox presented paper on "Circulation Systems and Sulfite Pulping"; Mr. Schenk, on "Proven Methods of Quality Pulp"; and Mr. Eidness, on "Operation of Cyclator in White Water Recovery."

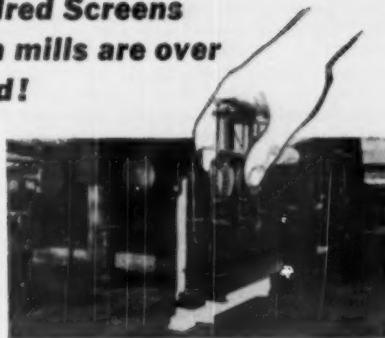
**NINETY
MILLION
POUNDS
BIRD
SCREENED
EVERY
DAY**



**— but more than seven hundred Screens
now in operation in American mills are over
twenty years old!**

Mills with big, new Bird Screens have
a tremendous production advantage.

Take a look at *your* Screens, now. If
there's any doubt as to their ability to
meet present standards of capacity,
dirt removal efficiency and screening
economy get in touch with us at once.



HAVE YOU DONE THIS FOR YOUR SCREENS?
Dirtec tailings units cost little — make a
whale of a difference in operating efficiency
and economy. Mill after mill is replacing
obsolete tailings handling equipment with
the Dirtec. May we give you the facts and
figures?

BIRD MACHINE COMPANY
SOUTH WALPOLE • MASSACHUSETTS

MACON KRAFT MILL

NEW AND UNUSUAL FEATURES ADDED

It has been more than a year since Macon Kraft Co. started its modern container board plant on the edge of Macon, a traditionally old yet modern central Georgia community of 100,000 population. During these intervening months the fine engineering expressed in this integrated mill has proven itself, and the plant has joined other such units in the South by enmeshing itself in the continuous pattern of progress that has won the Southern pulp and paper industry its high ranking in the national picture.

Macon—in the heart of Georgia—has been successful as a mill site. To the Creek Indians, it was a ceremonial spot and tribal headquarters. The treaty with the Creeks resulted (1806) in erection of Fort Hawkins. Incorporation of Macon followed in 1823. At the head of Ocmulgee River's navigation, it was a boat building center in 1819. Foundries and machine shops sprang up as early railroads spread from this distribution center. Expanding industry has included textile and woodworking plants, kaolin mines, refractories, brick and tile plants, food packers and processors. Today, 25% of the working force is in industry. The site is contiguous to the most prolific Southern pine growing belt, yet it is surrounded by a rich agricultural area.

Culturally and aesthetically, Macon is completely satisfying. Its rolling, hilly characteristics lend themselves most admirably to embellishment expressed in native trees and over five millions of



HERBERT A. KIDD, Vice President and Gen. Mgr. of Macon Kraft Co., Macon, Ga.

flowering shrubs. Founded in 1836, Wesleyan College was the first in the world to grant degrees to women. Its branches include the liberal arts and a famous Conservatory of Fine Arts with enrollment from every state in the Union. Mercer University grants degrees in liberal arts, science and law, and has the oldest school of Christianity in the South. The grade and high schools have an enviable record of graduates with ability to sustain college courses.

Macon is replete with colonial architecture, preserved by staunch Confederate defenses and the removal of all whiskey from the town in advance of taking over by federal troops. Here will be found the birthplace and shrine of Sidney Lanier, "poet-laureate of the South."

The mill site of 140 acres originally put under option on Jan. 27, 1946, after an extended study of possible locations in the

South, is located just off U. S. Route 41 at Macon's south edge. Of the site, 23 acres are occupied by Inland Container Corp.'s box plant. Other industries are nearby.

The Macon Kraft Co. is jointly owned by The Mead Corp. (Dayton, O.) and the Inland Container Corp. (Indianapolis, Ind.). Of the 600-ton daily production, part goes to Inland's plants and the balance is distributed by Mead.

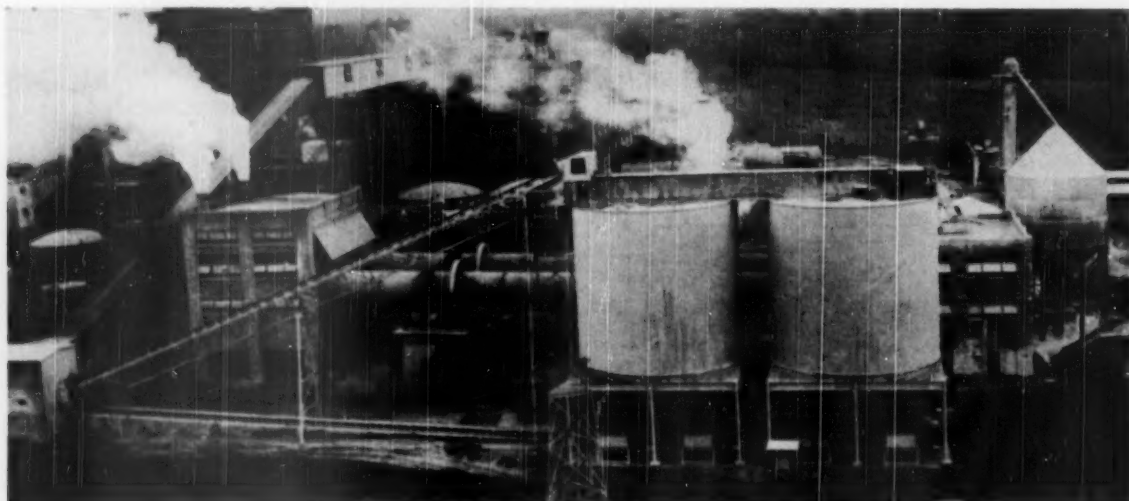
The mill was designed by Geo. F. Hardy & Son, New York consulting engineers, being the last to come off the board prior to dissolution of that famous firm. James Stewart & Co., New York, served as general contractors.

Pulpwood Handling

The mill has two rail lines serving the woodyard. One is the Southern Railway, and the Central of Georgia has a connecting spur to the Southern's main line at the entrance to the mill site. There are tracks along both sides of three conveyors whose aprons are car level to minimize unloading shock. One apron is for truck wood. Inasmuch as railroads do not permit open-rack cars to leave their own lines, this double service is highly advantageous.

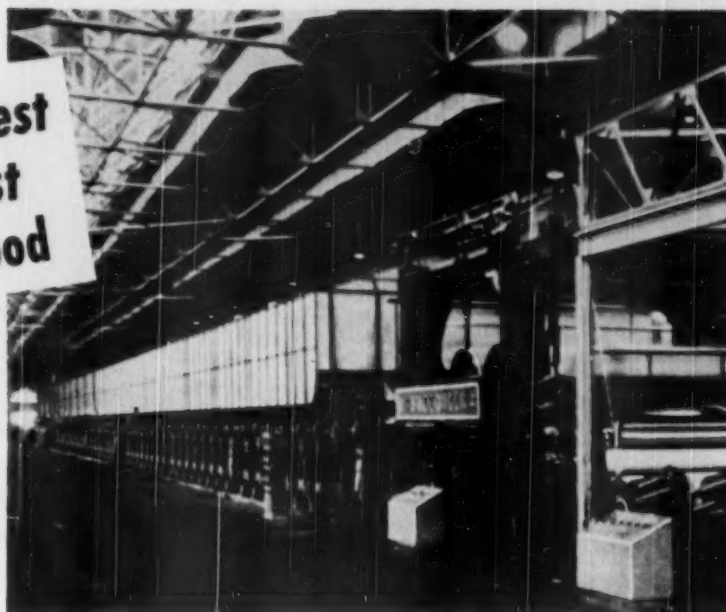
Pulpwood handling, either for direct use or the wood piles, is by two Lima-Hamilton cranes, one of which is powered with a Caterpillar No. 17000 diesel, and a Browning locomotive crane with Owens bucket. One of the Lima cranes is equipped with Blaw-Knox pulpwood

GENERAL VIEW OF PART OF MACON KRAFT CO. MILL. Tower in foreground carries high pressure fire fighting water nozzle. Easily recognized are two Chicago Bridge & Iron Co. chip bins, the chip conveyors, and the lime kilns.



**World's longest
and largest
machine hood**

Macon Kraft Company's new "Buccaneer" machine showing huge ROSS Insulated Panel Hood, 352 feet long. Ducts above, fitted with special distribution heads, are directing air toward machine room roof.



... one notable feature of the modern **ROSS** **AIR SYSTEMS** for Macon Kraft Company

Ross Air Systems at Macon Kraft Company Mill Include

- Hood and Exhaust System
- 4 Heating and Ventilating Systems
- 2 Felt Supply System
- 8 Air Make-Up Units
- 2 Ross-Grewin Vapor Systems
- 2 Washer Room Air Exhaust Systems
- Calender Cooling for 2 Calenders
- Motor Cooling System
- Unit Heaters for Shops and Stores
- Ventilation of Cottrell Sub-Station Room

For its magnificent new mill at Macon, Ga., Macon Kraft Company has installed one of the industry's largest and most complete air handling systems with advanced heating and ventilating features that are the first of their type installed in the South. Nearly 2,000,000 CFM of air is being handled. More air make-up units than are utilized by any other machine in America give an air balance of 77% to this notable mill.

The combined ROSS Air Systems, noted at left, constitute the last word in air handling efficiency and we are justly proud of the part we have played in completing this outstanding Macon Kraft Company project.



J. O. ROSS ENGINEERING

CORPORATION

MANUFACTURERS OF AIR PROCESSING SYSTEMS

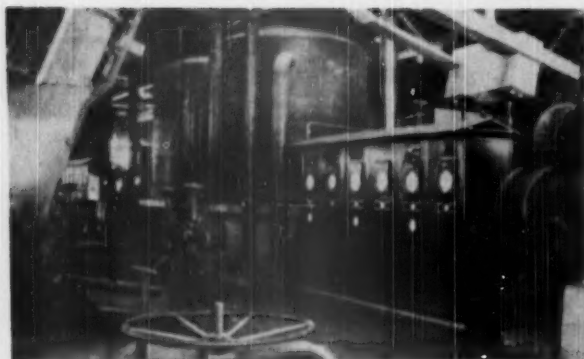
350 MADISON AVENUE

NEW YORK 17, N. Y.

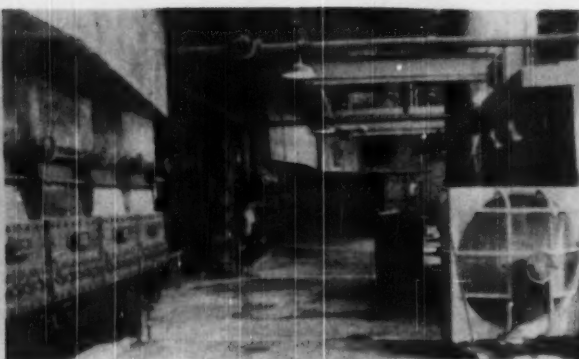
201 N. Wells Street, CHICAGO 6 • 79 Milk Street, BOSTON 9 • 9225 Grand River Avenue, DETROIT 4 • 600 St. Paul Avenue, LOS ANGELES 14
ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL 32, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

April 1950

29



MASON-NEILAN REGULATOR CO. DIGESTER AUTOMATIC CONTROL SYSTEM is shown in center of Macon mill's digester operating floor, also Mason-Neilan escape valve for digester cooking vapor. Digesters furnished by Chicago Bridge & Iron Co.



COMBUSTION ENGINEERING RECOVERY BOILERS OPERATING DECK at Macon. Control board equipment includes CO-2 recorders; steam flow, air flow, and recorders; Brown temperature recorders for primary and secondary heaters; steam pressure recording gauge.

grapple. A Jeffrey Mfg. Co. stacker, first in the South, has been installed.

The wood conveyors in woodyard and woodroom were furnished by Jervis B. Webb Co., of Detroit, designers, manufacturers and installers of both overhead and floor type conveyors in many industries.

Webb chain conveyors feed to a 12 x 40-foot Carthage barker from which the pulpwood moves to two 90-inch disc 12-knife Carthage chippers equipped with Heppenstall knives, and driven by 600-hp. Electric Machinery motors. At the top of the inclined conveyor to the chipper feed a spiked steel roller assists the logs onto the horizontal section. Maximum size of logs chipped is 19 inches. Chippers are equipped with Heppenstall knives.

Forty logs a minute go through the chippers and the mill consumes 1100 units (168 cu. ft. per unit) daily. The 5/8ths-inch square chips are not screened.

Chips feed on a 48-inch wide Good-year belt to the two 600-ton Chicago Bridge storage bins from which leads a similar belt to the transfer house and thence to the digester feed. There is a tramp-iron magnet set up over the conveyors to the storage bins. The belts pass through Merrick Weightometers and no storage is required above the digesters. About 948 feet of 48-inch belting was re-

quired to bridge the distance from transfer house to digesters.

The Pulp Mill

First of their kind in the industry, it is believed, are the cone-bottom type of digesters furnished by Chicago Bridge & Iron Co. They are 4300 cu. ft. capacity, approximately 12 1/2 tons A. D. fiber per digester. Cooking is direct at 343 degrees F. in alkaline white liquor for a three hour time cycle. Foster Wheeler equipment recovers turpentine. The digesters are equipped with automatic control by Mason-Neilan and blow valves by Yarnall-Waring. Cooking vapor relief valves are also from Mason-Neilan. A liquor circulating system may be added later.

Chicago Bridge also furnished the fabrication of blow tank, accumulator, seal storage tanks, burned lime tank and elevated water tank. The foam breaker installation is by Improved Paper Machinery Co.

All piping work was furnished and installed by Rowland Tompkins & Sons, Inc., of New York.

Rejects from the screening operation tanks, foam tanks, black and white liquor are carried to the roof top by a mill designed and installed conveyor system. The two lines feed into a transverse conveyor which drops rejected material into a hop-

per and bin. From here the material moves by a live bottom screw conveyor to a shuttle belt that also carries the fresh chips to any one of the six digesters. The conveyor pan is designed to carry any liquor involved back to the washers.

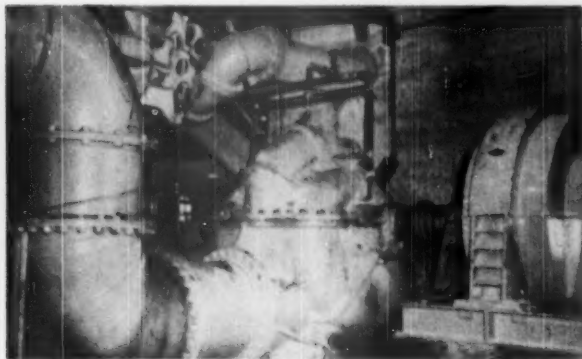
Stock—26 tons at 4% consistency—then goes to a 21,000 cu. ft. Stebbins stock chest, and thence to seven Impco primary stock screens driven by Westinghouse motors through Texrope. Rejected material is again passed through two similar screens for fiber recovery. Accepted stock from primary screens hits the dilution chamber then passes to two 8 x 16-foot Impco 40-mesh stainless automatic take-off roll deckers with VS drives. There are Ross Engineering hoods over all Impco washers.

Stock Preparation

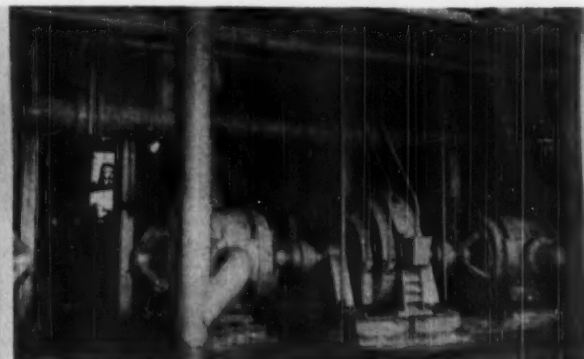
Stock from the couch chest on the paper machine and also from the deckered stock (to permit consistency control) are passed through the Impco saveall. Except for the amount borrowed, stock from the decker chest moves to an evenner chest where size is added, thence to the supply head for twelve 42-inch disc Sutherland refiners each driven by an Electric Machinery 350-hp. motor.

These Sutherlands have a single rotating disc and each is individually

INGERSOLL-RAND FAN PUMP has capacity of 28,000 GPM with a 30-ft. head. It is driven by Electric Machinery Co. 325-HP, 325 RPM motor.



SET OF 10 NASH ENGINEERING CO. H-10 HYTOR VACUUM PUMPS serve the Macon machine. Each pair is driven by 250 HP, 360 RPM Electric Machinery motor.





MACON KRAFT **goes 100%** **STOWE-WOODWARD on Rubber-Covered Rolls!**

The 32 Rubber-Covered Rolls on the new Beloit Iron Works machine at Macon Kraft Co. were furnished exclusively by Stowe-Woodward, Inc.

Included in this installation are 4 Suction Rolls and 3 STONITE® Rolls. The

STONITES® are 42" x 222"

Based on the experience of others, this confidence in Stowe-Woodward's manufacturing ability, as expressed by Beloit and Macon, will pay off again and again in satisfaction and trouble-free performance.

STOWE-WOODWARD, INC.

NEWTON UPPER FALLS 64, MASSACHUSETTS
 NEW YORK OFFICE: WOOLWORTH BLDG., NEW YORK 7, N. Y.

Rubber-Covered Rolls

FOR THE PAPER INDUSTRY



PERSONNEL AT MACON KRAFT (L. to R.): JAMES A. MAY, Assistant to the Vice President; RONALD W. CHILDERS, General Superintendent; CARL J. PLUMLEE, Paper Mill Superintendent; WILLIAM M. EBERSOLE, Pulp Mill Superintendent; GEORGE REYNOLDS, Assistant Plant Engineer; and LAWRENCE C. CROWDER, Plant Engineer.

equipped with its own forced lubrication system and hydraulic adjustment system. In addition, automatic controls are installed to protect the refiner against failure of the oil lubrication system or failure of the pump to supply pulp to the refiner. In the event either one of these two should happen, the refiner will automatically shutdown.

To keep down maintenance costs, the refiners are constructed entirely of stainless steel. Discs are re-machined in the mill. For uniformity, consistency is regulated before refining and the pump supplying pulp to the refiner delivers a constant pressure.

From the deckered stock chest, the stock goes through a Trimble consistency regulator to the evener and refiner stock chest, thence to the Ingersoll-Rand fan pump having a capacity of 28,000 gpm with 30-ft. head driven by an Electric Machinery 250-hp. motor. Stock is fed to the suction side of the fan pump for mixing with white water taken directly from the pit. The furnish is then ready for the machine headbox.

The Paper Machine

The paper machine, complete with calenders, reel and rewinder was furnished by Beloit Iron Works. It was given the appellation "The Buccaneer" in honor of Herbert A. Kidd, vice president and general manager, associated with Mead enterprise for many years. The headbox is of cast iron. Its wire is 216 inches by 130

feet long and the speed is 1500 feet per minute, usually running at 1400 for 42-lb. sheet. The Fourdrinier section has 21 table rolls of 10 $\frac{3}{4}$ -inch diameter and the primary and main suction couch rolls are 40 inches, while the breast roll is 32 inches in diameter. There are ten suction boxes.

To get a sheet of board through the press section dry enough to make possible the high speeds demanded, required every possible aid in the elimination of the water. It was accomplished by two sets of dual presses preceded by a lumpbreaker or presser roll. At the center of each dual press, is a 42-inch Stonite roll. The suction rolls are rubber covered and fitted with short press felts.

After adequate water removal comes the thought of finish. A first step in that direction is the wet smoothing press which levels the sheet before going to the dryers, of which there are 102, each 5 x 18 ft., arranged in six sections. After the fourth section a pair of rubber breaker rolls is interposed for the further leveling of the sheet. This operation increases the effectiveness of the calender stack in providing a better finish. The Stonite and the rubber covers, from lumpbreaker to breaker stack were all furnished by Stowe-Woodward.

There are 22 felt dryers and dryer temperature is at 300 degrees F. Vacuum for the machine is provided by ten Nash vacuum pumps, driven in pairs by five double extended shaft Electric Machinery synchronous motors.

One of the largest broke beaters ever delivered by Shartle Bros., measuring 43 $\frac{1}{4}$ x 27 $\frac{1}{4}$ ft. serves the machine. The roll of this beater is 74 ins. wide by 72 ins. diameter.

Ross's Largest Hood

In providing the hood and ventilation for the Macon Kraft's paper machine the J. O. Ross Engineering Co. outdid itself. Results included the longest and largest machine hood to date. Features incorporated provided for nearly 2,000,000 CFM of air. More air make-up units were utilized than in any other machine in America to that time, affording an air balance of 77%. The machine hood itself, of course, was part of a complete installation that included four heating and ventilating systems, two felt supply systems, eight air make-up units, two Ross-Grewin vapor systems, two washer room air exhaust systems, calender cooling systems, motor cooling systems, unit heaters for shops and stores, and ventilation for the Cottrell sub-station room.

The machine lubrication system was provided by Bowser, Inc., with drainage by Mid-West Fulton.

The Westinghouse 2000-hp. paper machine steam turbine drive is not only the largest on record but the first using high pressure of 825 pounds. Back pressure of 125 pounds is used for the dryers and/or for digester cooking. The gear reduction is 8.8 to 1. The single line power shaft transfers its energy to the machine and to three helper generator drives (including the Fourdrinier) by means of 13 belts. The helper generators include one of 200 KW and two of 100 KW each.

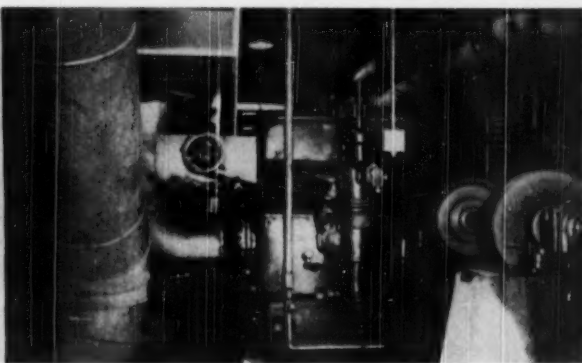
Extremely interesting, built by Webb from Hardy design, is the roll handling in connection with the Beloit shaft puller. This roll handling is completely automatic. The roll transfers to a hardwood table, travels by a conveyor which contains a scale unit where the roll is weighed, stamped and banded. It then is transferred to a small car whose track leads to the delelevator, whereupon the car returns automatically for the next roll. In the basement the roll conveyor system

(Continued on page 35)

BELOIT'S "BUCCANEER" 216-inch paper machine at Macon Kraft Co. At the dry end are shown Beloit calenders, reel and rewinder.



WESTINGHOUSE 2000 HP SINGLE DRIVE SHAFT TURBINE, at Macon Kraft, is not only "biggest," but with 825-lb. steam, is also first high pressure drive on record. There is take-off to drive three DC generators for Fourdrinier and helper drives.



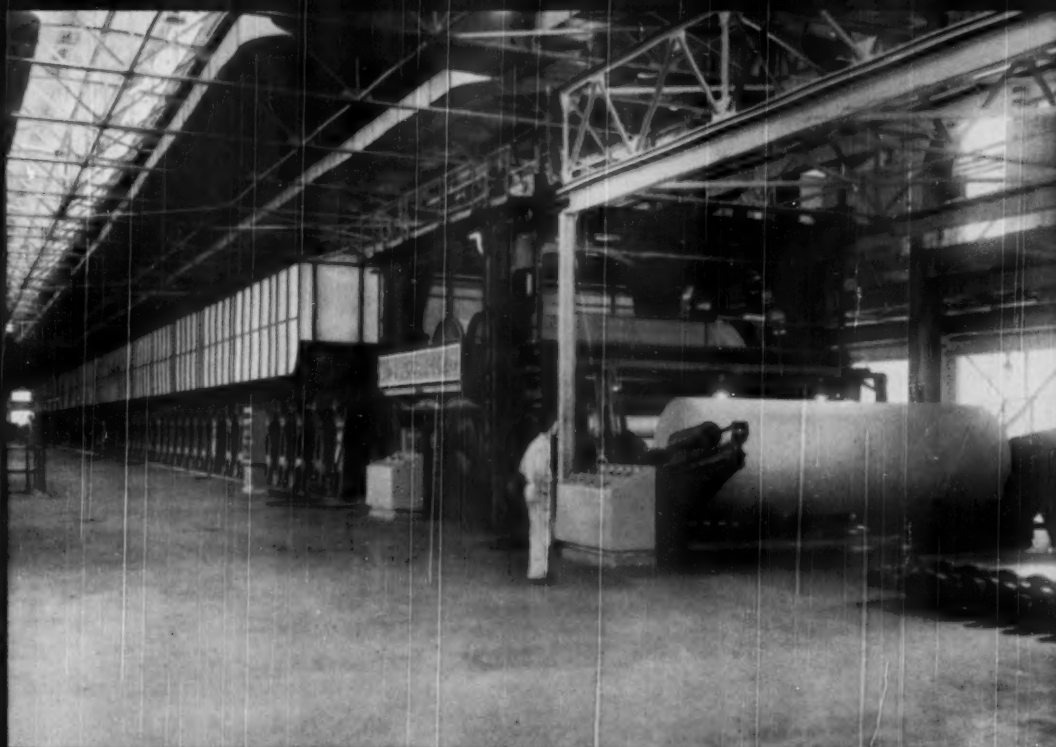


The BUCCANEER



Congratulations to Macon Kraft Company on the completion of its new mill . . . a well conceived, expertly planned and expertly operated project. This Beloit 216" Kraft Board Machine, under a bold banner, is helping make history in the South.

BELOIT IRON WORKS, BELOIT, WISCONSIN



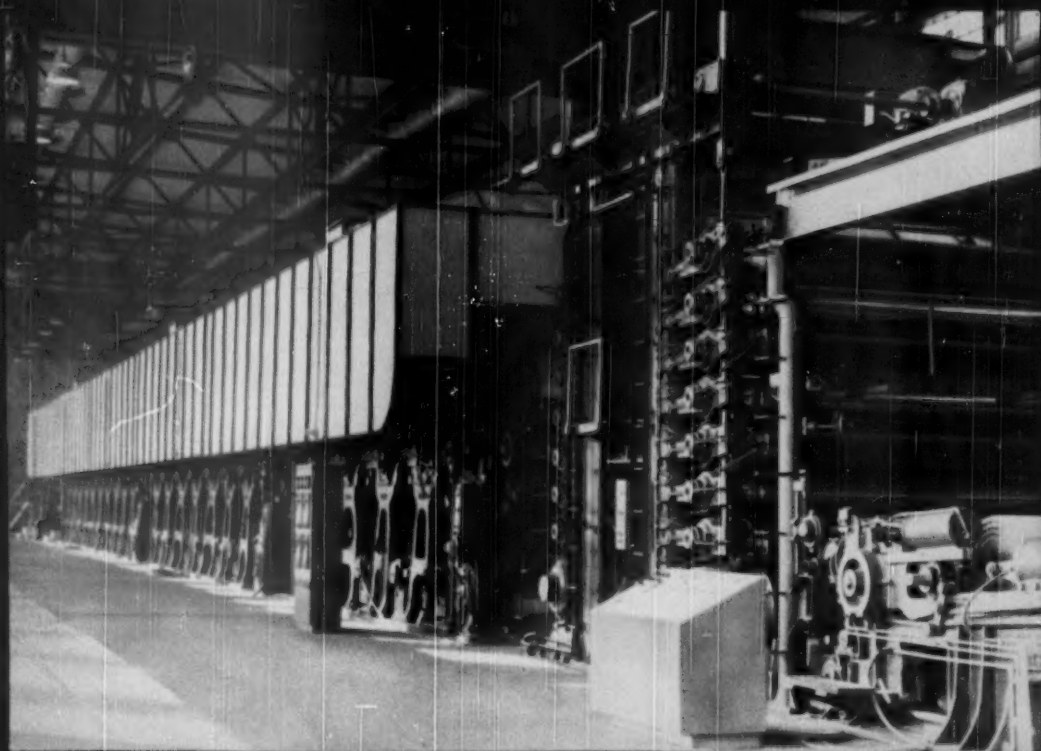


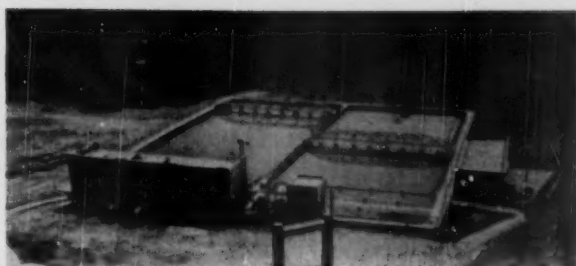
The Warrior



Congratulations to Gulf States on the successful completion of its
impressive expansion program . . . which includes this new 170" Beloit High Speed Kraft
machine . . . turning out high-quality Kraft bag and wrapping paper
for the E-Z Opener Bag Co., Gulf States Sales Division, in The Gulf
States Paper Corporation plant at Tuscaloosa, Alabama.

BELOIT IRON WORKS, BELOIT, WISCONSIN





IN DORR-EQUIPPED PLANT for water treatment is shown Dorrco Flash mixer, two Dorrco Flocculators and two Dorrco Monorakes. Effluent from Monorakes flows by gravity to clear well for pumping to plant.



THREE GENERAL ELECTRIC TURBO-GENERATORS at Macon. Two are 3000 KW, third (rear) produces 7500 KW. Arrangement is like modern man-of-war with no solid partition between boiler and generating rooms.

allows the rolls to be guided in almost any direction for storage or shipment.

Power and Chemicals

Average steam demand at the Macon mill is 12,000,000 lbs. of which 5,000,000 lbs. is provided by two Combustion Engineering recovery boilers with Murray Cascade evaporators—2,000,000 lbs. from the C-E bark boiler and 5,000,000 lbs. from two pulverized coal fired C-E vertical unit power burners.

This is one of the first of the very high pressure steam installations, with operating pressures of 825 psi. and 865 degrees F. The two recovery units burn 900,000 lbs. of dry solids every 24 hrs. and are designed for an operating pressure of 965 psi.

The bark burner features the first 3-cell Hoffft furnace of this particular design. The bark burner generates an average of 2700-lbs. of steam per ton of board.

All boilers are equipped with types C-35-A3 or C-36-A3 Bailey meters feed-water and level controls. There are also Bailey reducing and desuper heating stations in this mill.

Coal comes from nearby fields having unusual firmness of structure, averaging below 55 degrees Hargrove grindability. Average daily consumption is 230 tons, with 13,300 BTU value per lb. Raymond pulverizers are used.

A Cottrell precipitator was furnished by Research Corp.

The continuous recausticizing system, including clarifiers of a new and highly efficient type, dregs washer, reaction

tanks, lime and mud filters of special design, as well as all controls for the caustic plant and feed end of the system were furnished by General American Transportation Corp. Also the lime handling system was furnished by General American using Jeffrey Manufacturing Co. conveying equipment. The two A-C lime kilns are 1.5 ft. long.

The two sets of Conkey sextuple effect evaporators were fabricated by General American Corp. In this the black liquor goes to No. 5 and No. 6 in each set in parallel, lending increased capacity by enlarging the first volume. Afterwards, the condensate goes by series to the other four effects.

General American also furnished the soap skimming tank.

Cooked stock proceeds through two 8 x 16-foot four-stage counter-wash Impeco vacuum washers. Instrumentation is by Foxboro and there are DeZurik regulators in connection with the washing system.

Water Treatment

Fifteen million gallons daily are drawn from the Ocmulgee River by means of three Layne Atlantic vertical centrifugal pumps of 5200 gpm. capacity each. Water treatment plant was designed by Hardy with equipment furnished by The Dorr Co. The 100,000-gallon Chicago Bridge & Iron Co. elevated water tank for fire protection provided one of the new features in that field, i.e., all-welded tubular supports. The tank bottom is 125 feet above the ground. The boiler feedwater treat-

ment plant is by Worthington—a 220,000 lb. per hour hot process water softener with phosphate treatment.

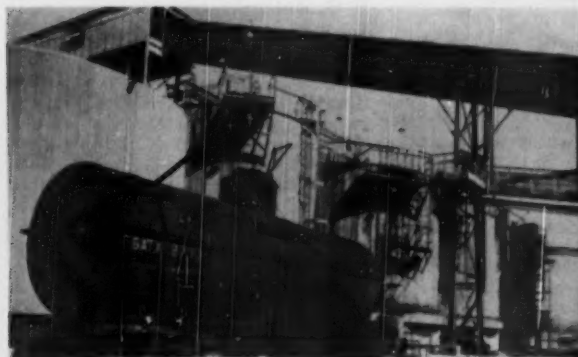
Three boiler feed pumps were furnished by Ingersoll-Rand and are of Cameron Type, 850 gpm, 2,520-foot head, 3,575 RPM. Two main pumps are driven by 700 hp Westinghouse induction motors with forced lubrication. The auxiliary is driven by a 700 hp, Type G-S Terry turbine operating with 850 PSI at 40 PSI exhaust. Auxiliary power is from a 640 hp diesel motor.

Due to the large percentage of synchronous motors used throughout the plant, a power factor of 99% is maintained by the electrical system. The mill has an average daily load of 14,000 KW with comparatively small variances, and this power is furnished by three General Electric turbo-generators. Two of these are 5,000 KW units with extraction and condensing turbines, and the third is a 7,500 KW extraction back pressure. Steam pressure is taken at 850 PSI (825 degrees F.) and one condensing unit extracting 155 PSI and the other 40 PSI, the back pressure machine working at the same 155 psi. pressures. The condensers and air ejectors were furnished by Foster Wheeler. Electrical characteristics are 60 cycle, 4160 volts.

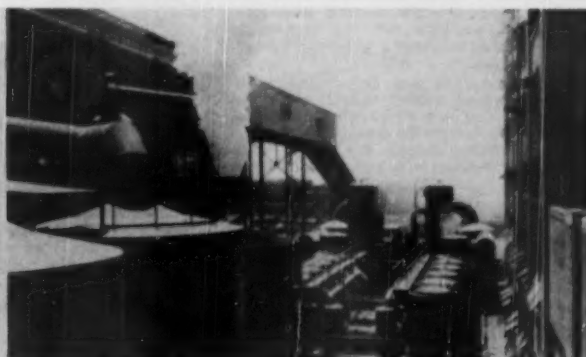
Distribution is through Westinghouse metal clad switchgear equipped with air breakers. Westinghouse air cooled transformers step the voltage down to 2400 and 480 volts, there being 11 breakers.

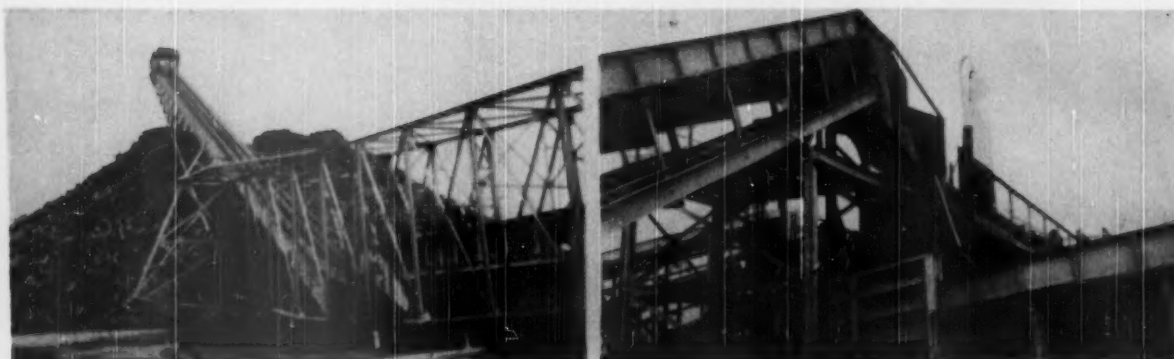
In addition to the pulpwood handling

GENERAL AMERICAN RECAUSTICIZING PLANT. This frontal view shows all the big tray thickeners or clarifiers.



GENERAL AMERICAN PROCESS CO. EVAPORATOR INSTALLATION at Macon, composed of two sets of Conkey sextuple effect evaporators. On left, two digester blow tanks and accumulator tanks.





JEFFREY STACKER MOVABLE LEG swings from a pivot, being carried by twin trucks on a rail track of 160 ft. radius. Upward incline section is at 30 degrees.

JEFFREY PULPWOOD STACKER TRANSFER POINT. Lower level at right to wood pile; inclined section at left from wood pile; horizontal section leading right from center either takes pulpwood from barker or sends it to chipper house.

rail spurs accommodating 65 cars, there are additional tracks up to a total of 20 that can take care of 120 cars of coal and other supplies and outward bound shipments. The salt cake pneumatic "Airveyor" was furnished by The Fuller Co., Catasauqua, Pa. There is also a Fuller standard storage bin and a concrete salt cake storage structure. There are Duriron alum pumps.

A salt cake crusher was made by the American Pulverizer Co., St. Louis. Installed for reduction of salt cake of 6-inch lumps and under, the new WC-18 Hammermill has a 30 HP rating with a speed of 1200 rpm, and can reduce 10 tons of salt cake per hour, with 98% of the product passing an 8-mesh screen. Constructed of extra-hard, steel housings, American Hammermills are designed to withstand severe, constant service. Heavy welded, plate steel frame provides rigid construction without massiveness.

New Installations

During the past year the Macon mill started on its planned program of equipment expansion. One of these illustrations is a lime saver (the second in the South) which is expected to pay for itself in 8 to 12 months. The equipment comes from American Air Filter Co. and in its operation the filter system takes the fines from flu gas by wet wash. The ejector draws the lime slush from the tank and it is then pumped to the mud thickener of the causticizing system. The lime particles recovered are of the fineness of face powder.

In maintaining a constant water level in the rodacloine filter system some overflow is experienced. This overflow contains some soda ash, which goes back into the causticizing system, resulting in recovery of a small amount of this chemical.

Installed since the mill started production, Macon Kraft has a Jeffrey Mfg. Co. pulpwood stacker operating in connection with a flume, the first of this type in the South. The company also has installed several fire towers—steel structures surmounted with high pressure water nozzles.

In operation, the conveyor back of the Carthage barkers can be reversed so that logs can be sent to the chipper or out to the wood-yard storage piles. When headed for the reserve, the barked logs drop to a gently rising fixed conveyor section. At its end there is pivoted a movable section, the outer end of which is carried on twin rail trucks moving on a track having a 160-ft. radius. When the pulpwood reaches this point it is transferred

to a 30-degree inclined conveyor section that carries it to the pile. The total horizontal distance from pivot to the head pulley for the conveyor is 300 feet and the maximum vertical distance from the head pulley of the inclined conveyor is 100 feet.

To serve this installation, Jeffreys designed a new type of heavy log conveyor chain identified as "Vulcan No. 2624." The installation is capable of handling 50 cords of pulpwood per hour, the normal maximum period of storage for these barked pulpwood logs is 60 to 90 days.

When the mill wishes to use wood from the barked yard stack it is pulled down by an orange peel grapple equipped crane. The logs fall into a 4½-foot concrete lined flume that passes in a loop beneath the two pulpwood piles. Circulating water is maintained to a depth of about 24 to 30 inches by a Goulds centrifugal pump that handles about 1200 gpm with a 30-ft. head. It is driven by a 200 hp Westinghouse motor.

The flume runs to the bottom of a jack-leg where the pulpwood is picked up by a Jeffreys conveyor as the water passes through gratings in the concrete chamber. Since there is a certain amount of loose bark and wood slivers involved, the water passes to an adjoining chamber where it passes through a perforated plate, leaving the wood refuse to be carried away by a conveyor.

The completion of this installation provides the Macon mill with a most flexible wood handling arrangement. If it is desirable to close down the barkers, pulpwood can be drawn from the reserve piles. Should it be desirable to close down the chippers, the chip bin can supply the digesters for an interval.

Personnel

The Macon Kraft Co.'s directorate is made up of George H. Mead, Sydney Ferguson, C. R. Van deCarr, Jr., A. W. Jones, Alan G. Goldsmith and Al H. Mahrt, all directors and officers of The Mead Corp.; and H. C. Krannert, C. A. Behringer, G. B. Elliott and Kurt F. Pantzer, all directors and officers in Inland Container Corp.

The officers of Macon Kraft are: George H. Mead, chairman of the board; Al H. Mahrt, president; H. C. Krannert, vice president; C. A. Behringer, vice president; Herbert A. Kidd, vice president and general manager; George Robinson, treasurer; G. B. Elliott, secretary and assistant treasurer; Murray Smith, assistant secretary and counsel.

James A. May is assistant to the vice president; Robert A. Rock is industrial relations manager and Giles A. Gibson his

assistant; Robert L. Kintz, controller; Ralph J. Schmieder, purchasing agent.

Ronald W. Childers is general superintendent; Lawrence C. Crowder plant engineer, and George W. Reynolds his assistant.

Carl J. Plumlee is paper mill superintendent; W. P. Shannon, Anthony J. Parrino, Carroll C. Patton, and John Jordan, tour foremen; and Sam A. Johnson, finishing and shipping supervisor.

William M. Ebersole is pulp mill superintendent; W. R. Talley, W. Ira Hull, James A. Whelan, and O. T. Cook, tour foremen; and John B. Gaskin, wood supervisor.

Lloyd E. Goodwin is chief chemist and W. B. Simmons, his assistant; Albert D. Simpson, power plant superintendent; Samuel W. Rose, chief meterman; S. D. Frost, master mechanic; John S. Kirkland, chief electrician; David H. Jones, pipe foreman; Ottis Hutto, millwright foreman; J. Ford Johnson, machine shop foreman; Willie H. Land, service crew foreman.

Norman R. Harding is wood and woodlands manager; George L. Snowden, woodlands consultant. The woodlands operations are under the name of Interstate Land & Improvement Co., with headquarters ten miles east of Macon on what is known locally as "Sterling Farm," and in charge of Erle T. Newsom, Jr. The company has acquired a substantial acreage and is actively engaged in advanced forestry practice.

E. G. Amos Named Asst. Executive Sec'y of APPA

Announcement has been made by E. W. Tinker, executive secretary of APPA, that E. G. Amos will become assistant executive secretary of APPA on April 1.

Mr. Amos joined the APPA staff in 1941 as secretary of the Industrial Relations Committee. He has also served as director of the annual convention of APPA and as secretary of the SAPI for the past four years. He is a graduate of Michigan State College, and for 15 years was engaged in Agricultural Extension work for that institution. He also served eight years with the U. S. Forest Service at Milwaukee and Boston.



MACON KRAFT PAPER COMPANY
MACON, GEORGIA

Built by James Stewart & Company, Incorporated,
Engineers and Contractors
New York, Chicago, Dallas, Montreal

Other mills built by James Stewart in the great pulp and
paper industry of the North American continent include:

Kieckhefer Container Co., Plymouth, N. C.	Howland Paper Co., Sandy Hill, N. Y.
Price Brothers Co., Ltd., Jonquiere, Que.	St Joe Paper Co., Port St. Joe, Florida
Abitibi Power & Paper Co., Ltd., Iroquois Falls, Ontario	

In its 106 years of uninterrupted operation the James Stewart organization has acquired an exceptional versatility and resourcefulness in engineering and construction methods through the diversity of its projects.

Among the many hundreds of structures it has built are: skyscrapers, steel mills, railway terminals, state capitols, monumental buildings in the Orient, grain elevators in Russia, college buildings in New England, ore docks on the Great Lakes, Naval Bases in Trinidad and British Guiana, pulp and paper mills from Quebec to Florida, and outstanding structures of all types and sizes in practically every industrial and commercial activity throughout the world.

JAMES STEWART & COMPANY, INC.
GENERAL CONTRACTORS

NEW YORK CHICAGO
DALLAS MONTREAL

This Company never has, and does not now, solicit architectural and engineering work as such, but, as a traditional part of its construction service, it does make its planning and designing facilities available to those who request it.

Pulp Importers Reply

MAGNUSON STATEMENTS CHALLENGED

According to members present, the Association of American Wood Pulp Importers, at a meeting in New York City on the eve of Paper Week, unanimously questioned the statements by Senator Warren Magnuson (Dem., Wash.) in an interview with **PULP & PAPER**.

In order to fairly present both sides of the subject at issue, **PULP & PAPER** has also interviewed several of the leading members of the importers' group.

In the interview (page 45, Feb. issue) Sen. Magnuson stated that he had talked with a number of Swedish pulp industry leaders while in Sweden around the first of the year, and with a government official whose position corresponded to that of an undersecretary of state in the U. S., and also to the ECA representative in Sweden. The essence of his interview was that (1) it was the desire of the Swedish industry to sell pulp almost exclusively in the U. S. market and to the exclusion of other countries where currencies are depreciated;

and (2) Sweden was specifically laying plans for the U. S. market, considering their timber holdings in good shape, and planning to increase pulp output. He said he believed he had influenced the Swedes to change their alleged plans.

Bluntly, the importers group considered Sen. Magnuson wrong on all three points. With one or two other statements the senator made, they were in agreement or partial agreement. They agreed that Sweden has been receiving, as Sen. Magnuson said, gold payment for sales to Russia, but they pointed out that nevertheless, Sweden has completed only one-third of its trade agreement with Russia because Russia has been unwilling to make further payments.

In his statement regarding "isolated barter deals" they suspected that he referred to bilateral trading which is accepted practice throughout the world today. As to Magnuson's remarks on the currency situation, present and future reciprocal trade agreements, the Brannan farm plan, and the CVA problem, which were included in this interview, they consider these irrelevant to his main subject and made no comment on them.



Stanford G. Blankinship (above) president of the Association of American Wood Pulp Importers, informed **PULP & PAPER** that this position had been taken at a luncheon meeting Feb. 14th which included, among other members, such industry leaders as: Fred Enders, president of Bulkley, Dunton Pulp Co.; H. A. Hughes, general manager of Price & Pierce, Ltd.; A. J. Pagel, president of Pagel, Horton & Co., Inc.; R. J. Burke, manager, Pulp Sales Division, The Mead Sales Co.; N. R. Johaneson, president of Cellulose Sales Co., Inc.; and R. G. Westad, president of Borregaard Co.

In the interview, Sen. Magnuson told the Swedes that the U. S. "could not stand any dumping" and that Congress would not "stand for it." The importers group objected to this definition to indicate possible future trade with the Scandinavian countries. They said they objected to it from the standpoint of the government legal definition of dumping.

"Careless and uncalled for" is the way one member put it.

President Blankinship stated that it has never been intimated to any U. S. wood pulp importer or any officials that Sweden wanted to use the U. S. as an exclusive market, or that they were making a plan to do so.

Said Mr. Blankinship, who is also vice president of Perkins-Goodwin Co., New York:

"Our foreign mills are at the time of this interview waiting for second quarter prices before advising us what tonnages we may expect in the way of pulp imports. On the publication of the senator's interview, I made an extensive investigation of importing offices, both within and without our association, and I could not find any single Swedish mill which would fall within the mythical category which the senator mentions. Also, as a matter of fact, their forests are in no shape to permit any sizable increase of pulp production. It should be borne in mind that government regulations are still in existence and there is no increased production possible until these wood restrictions come off. My opinion is that this possibility will be many years in the future. The senator should also take note of the fact that the prices from Sweden are now generally on a level with U. S. prices and on some quality grades, such as certain types of dissolving pulps, the Swedish prices are somewhat higher.

Speaking of recent and current conditions, Mr. Blankinship pointed to the fact that only minor sales had been made on much the same price levels as those of the U. S. and that as nearly as could be determined at this time, the 1950 Swedish imports will be approximately the same as in 1949 when the figure was 266,999 short tons. On behalf of his argument, Mr. Blankinship invited attention to wood pulp statistics since 1945 when it was 670,924 tons from Sweden. In the years since then, up to and including 1949, figures for U. S. pulp imports from the three Scandinavian countries show as follows:

	1946	1947	1948	1949
Sweden	445,114	555,215	384,583	266,999
Finland	115,220	223,973	175,900	146,907
Norway		9,577	13,218	29,208

Mr. Blankinship noted that pulp imports from Sweden, Finland and Norway have been declining in the record to date.

All of the importers interviewed by **PULP & PAPER**, who are members of the association, asserted that Sen. Magnuson's comments were not only inaccurate as to fact, but that their general tenor completely lost sight of the changing balance of power in the world wood pulp situation since before the war. The Scandinavian countries are no longer the factors in this market that they once were, due to the tremendous increase of U. S. production. They quoted the Swedish Timber and Wood Pulp Journal of Jan., 1950, which stated:

"Only minor sales have thus been made in the American market these last few weeks and they are almost exclusively for delivery in the first quarter. Prices are

THE HEAD MEN FOR 1950

American Paper and Pulp Association, George Olmsted, Jr., S. D. Warren Co. TAPPI (re-elected), Albert E. Bachmann, Missisquoi Corp.

Sulfite Paper Manufacturers Association, James G. Conley, Fraser Paper Co., Ltd.

Salesmen's Association, Daniel H. Keck, Kimberly-Clark.

Groundwood Paper Manufacturers Association, E. K. Doonan, Gould Paper Co.

Bristol Board Group, Norman Harrower, Linton Bros. & Co.

Soda Pulp Association, Peter S. Paine, New York and Pennsylvania Company.

Coated and Processed Papers, Spurgeon F. Barndt, Wyomissing Glazed Paper Co.

American Wood Pulp Importers, Stanford Blankinship, Perkins-Goodwin Co.

Tall Oil Association, Leonard Doyle, Union Bag & Paper Company.

American Pulp & Paper Mill Superintendents, Charles Reese, Nekoosa-Edwards.

Affiliates of American Pulp and Paper Mill Superintendents, has regional affiliates assisting in ten areas.

Writing Paper Manufacturers Association, re-elected, W. B. Zimmerman, Howard Paper Mills.

Newspaper Service Bureau, re-elected, John L. Hobson, St. Croix Paper Co.

Stream Improvement Council, George E. Dyke, Robert Gair, Inc., re-elected.

Cover and Text Paper Group, George E. O'Connor, Mohawk Paper Mills.

Association of Pulp Consumers, William Beckett, The Beckett Paper Co., re-elected.

Glassine and Greaseproof Association, Robert Nelson, Rhinelander Paper Co.

The Tissue Association, H. G. Wintgens, Hoberg Paper Mills, re-elected.

Waxed Paper Institute, W. P. Patterson, Specialty Papers Co.

Kraft Paper Association, Gilford F. Henderson, Brown Co., re-elected.

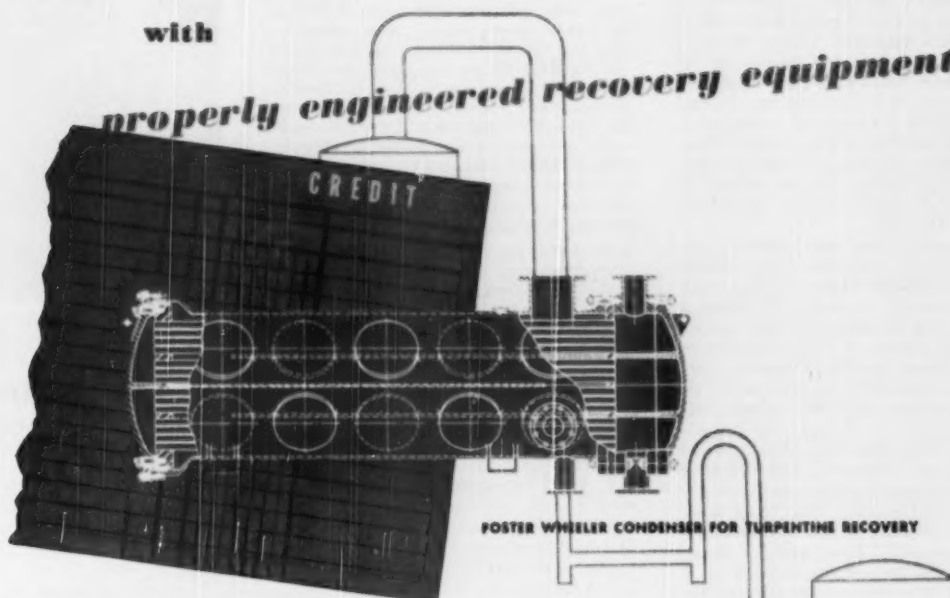
American Pulpwood Association, J. E. McCaffrey, International Paper Co.

U. S. Pulp Producers, James L. Ritchie, executive director.

adding a PROFIT

with

properly engineered recovery equipment



FOSTER WHEELER CONDENSER FOR TURPENTINE RECOVERY

TURPENTINE RECOVERY

Turpentine Recovery is proving a profitable "side" item at the completely modern Macon Kraft Mill near Macon, Georgia, the largest single-machine container-board mill in existence. Six hundred tons of container board are produced daily here for the Mead Corporation and the Inland Container Corporation.

Two to three gallons of turpentine per ton of pulp are recovered at the Macon Kraft Mill with Foster Wheeler equipment—a fine record for the type of pine available in the area. Other areas have shown even greater yields with Foster Wheeler Turpentine Recovery Systems which also recover heat in the form of hot mill water.

Other pulp mill equipment—designed, engineered, and constructed by Foster Wheeler—include Systems for Digester Blow Heat Recovery, Indirect Digester Heating, and Tall Oil Processing.

Write for bulletins 1D-47-13 and 1D-47-3

FOSTER WHEELER CORPORATION
165 Broadway, New York 6, N. Y.



The Macon Kraft Mill near Macon, Georgia.

FOSTER  WHEELER

unchanged and approximately on the same level as those of domestic American and Canadian pulp. No active selling of Swedish cellulose to the U. S. can be expected until the domestic prices for the second quarter have been fixed."

The senator's interviews, appearing in the press as well as this magazine, caused "considerable agitation" in the Swedish industry, according to one spokesman for the Importers Association. Mr. Blankinship, president of the association, showed **PULP & PAPER** a cablegram reflecting a part of the Swedish reaction. From Torsten Lundgren, secretary of the Swedish Cellulose Association (the equivalent of U. S. Pulp Producers here), the cable, dated Feb. 24, reads:

"My attention has been called to an interview of Sen. Magnuson in the magazine **PULP & PAPER**, February issue, page 45. The statements made by Sen. Magnuson concerning Sweden's cellulose industry and its intentions are so erroneous that they cannot possibly be based on any information received from any person or persons of prominence in the Swedish cellulose industry. . . I have no knowledge that during his three days' visit in Sweden he met with any representatives of the cellulose industry, but according to my information Sen. Magnuson, during his three-day visit, primarily interviewed shipowners. As an example of our position regarding exports to U. S. A. I should like to point out that during 1949 our exports to U. S. A. amounted to 315,000 metric tons and as far as 1950 is concerned no appreciable change is expected with respect to exports to U. S. A."

A. J. Pagel, president of Pagel, Horton & Co., New York, commented:

"In Sweden alone, during the last couple of years plants producing close to 150,000 tons of chemical pulp have been dismantled and furthermore, the Swedish mills have increased their production of rayon by 400,000 tons since before the war, consequently eliminating that tonnage for export in unbleached and bleached sulfites. As hardly any Swedish rayon pulp is sold in this market, there is a cut right there of 250,000 tons that prior to the war would have gone to this market. With a larger demand for Swedish pulp from Germany, which is short of wood and with some of her large plants now behind that Iron Curtain, the demand for Swedish pulp in other markets than the U. S. A. has greatly increased. While Sweden exported about 1,000,000 tons in 1937, at least for some years to come, 500,000 tons seems to be close to the maximum."

Pulp in '49 Near Record

Production of wood pulp in the U. S. during 1949 totaled 12,186,000 tons, coming within about 5% of equaling the all-time record of 12,872,000 tons established in 1948. Imports totaled 1,761,000 tons in 1949, against 2,176,000 tons in 1948. Exports took 96,000 tons of domestic production last year, in comparison with 102,000 tons the year before. Total new supply of wood pulp made available to the U. S. industry through domestic production and imports amounted to 13,851,000 tons for 1949, against 14,946,000 tons for 1948.

In thus summarizing the record, Fred G. Stevenot, president, Puget Sound Pulp & Timber Co., pointed out that, quarter by quarter, a change for the better occurred as the year progressed.

Unusual Calm Was Broken

Fifty-one weeks of the year Warren Bullock (right) manages the Import Committee of APPA, but during "Paper Week" he serves all phases of the U. S. and foreign press and wire services. The APPA "press chief" is usually calm under the most trying conditions. But foreign interest in the growing industry of U. S. and Canada has speeded up, there strode into Mr. Bullock's quarters a large and imposing character with the air of a field marshal. He turned out to be a representative of Tasa. He demanded rather than stated his needs which were many and all required "at once." What he wanted was "avary theeng" you have for publishing, and a man who could estimate him "with accuracy of one per cent error" 1950-1951 U. S. and Canadian production in all types of pulp and paper. What he got was detailed instructions as to how to reach the elevators. Mr. Bullock's calm had broken.



NEW ARKANSAS MILL PLAN State Grants 10-Year Tax Breather

Progress has been reported in the preliminary work leading to the building of a paper mill at or near Prescott, Ark. Plans for impounding water from a stream near a proposed site is under discussion with the U. S. Engineer Corps. The Arkansas state authorities have extended a 10-year exemption period from ad valorem taxes to the project.

It is understood that James R. Benck, president of the Ozan Lumber Co., Prescott, Ark., will head the paper company. The Ozan Lumber Co. owns about 60,000 acres of forest land. The project is understood to have the backing of the Dierks

Lumber & Coal Company, Kansas City, Mo., of which Fred Dierks is active representative in connection with the paper mill. The Dierks company owns in excess of 600,000 acres of well-managed forest land in Arkansas, with headquarters there at DeQueen and a large sawmill operating at Dierks, Ark.

One site considered for the mill is on the south side of U. S. Highway Route No. 67 where it crosses the Little Missouri. The site is about eight miles from Prescott. Murfreesboro, Ark., 30 miles away is also anxious to secure the paper mill there.

CANADIAN STAND ON POLLUTION

We reported last month that the premier of Ontario had decided to permit the KVP Ltd. kraft mill at Espanola, Ont., to continue to operate after listening to the protests of a delegation of citizens to an injunction based upon a technicality of the law.

The KVP Ltd. case almost was on its way to becoming a *cause celebre* in connection with pollution issues as they affect all types of chemical pulp mills, in widely variant seriousness, of course.

Therefore, the considered opinion agreed upon by the Canadian industry's technical section when it assembled in Montreal is of interest to all the mills on the continent faced with this problem.

The CPPA technical section as a whole made its stand plain in a telegram from the meeting to the Premier of Toronto and the Minister of Lands and Forests. If the telegram was designed to apply to Espanola and its difficulties beginning last year, due to what the technical section frankly termed "an anachronism of Ontario law," it was to the point. But the wire stated a reasonable and stalwart position on the whole pollution problem, as well. It emphasized that the 1150 members, through a committee of genuine experts, had concluded that, thus far, it is impossible to conduct pulp and paper operations without causing "some change" in

the stream or river, and that any such change might be technically termed pollution. That this could lead to shut-downs by compulsion, or serious damage suits, the wire needed only to point out the imminent danger to Espanola.

But the crux of the CPPA stand was in these frank words: "It has been demonstrated that so-called pollution can be reduced or controlled to a point of being inoffensive, or of only a minor inconvenience to individuals. In such circumstances, individuals affected would have right to damages as assessed by the courts. (But) we believe it out of all proportion, and contrary to the general public interest, to have a mill compelled also to cease operation due to an injunction derived from technicalities."

This was meeting the problem head-on, and asking for reply to a question, the answer to which has rarely been received: "What and where is the mark we must attempt to reach in order to be safe?" In Canada the pulp and paper industry has always been the first industry, but today its well-being stands as a bulwark between the Dominion and a depression. So CPPA could honestly and plainly conclude its wire with a confirmation of its belief in the rights of individuals and yet add that "public interest as a whole must be accepted as a governing factor."



News About Industry People From Coast to Coast

J. M. CONWAY, president and general manager, Hoberg Paper Mills, Green Bay, Wis., took a breather from a busy winter for a vacation in sunny Arizona.

ROBERT E. BUNDY, vice president in charge of Fibreboard Products, Inc., and Mrs. Bundy, who now live in the San Francisco Bay area, have a couple of youngsters who have reached the "personality age." Old friends who have followed the family's career from Port Angeles to Philadelphia and back west again, will be interested that a recent Fibreboard press release says their children, Janet and Mike, have reached the respectable ages of 14 and 8, respectively.

HENRY B. McALLISTER has been appointed general superintendent of the Central Paper Co. mill at Muskegon, Mich., according to John G. Turnbull, president. Mr. McAllister has been superintendent of the paper mill. Prior to that time he was with various mills in International Paper Co. for 20 years.

HAROLD L. ZELLERBACH, president of the Zellerbach Paper Co. and executive vice president of Crown Zellerbach Corp., is also president of the San Francisco Art Commission, sponsor of popular concerts, and has been re-elected president of the Temple Emanu-El, oldest reform congregation in San Francisco.

DR. R. W. BALL, heading up the technical planning department for Columbia Cellulose Co., subsidiary of Celanese Corp. of America, at Watson Island, B. C., visited Vancouver and Prince Rupert recently.

Bunde New Chief Engineer Of Sutherland Paper Co.

Glen E. Graham, vice president in charge of production, Sutherland Paper Co., Kalamazoo, Mich., has announced the appointment of Lee F. Bunde as new chief engineer, to fill the vacancy caused by the death of Merton Fogerty.

Mr. Bunde joined Sutherland in July 1948 to do the lay-out work of steam piping for division No. 7 and the new boiler. He has degrees in both electrical and mechanical engineering after attending the Armour Institute of Technology in Chicago and Tri-State College in Indiana.

Previous to joining Sutherland, Mr. Bunde worked for the Celotex Corp. in Marrero, La. as superintendent of engineering from 1933 to 1938. Then he moved to Filer City, Mich. and became plant engineer and production manager of the Filer Fibre Co. until 1945. From 1945 to 1948 he was operating manager of the Otsego Falls Paper Mills Inc., of Otsego, Mich. Mr. Bunde has 27 years experience in engineering and the pulp and paper industry.

RAY VECHINSKY, a veteran of over 20 years in the industry, was appointed superintendent of Nekosia-Edwards Paper Co., in Port Edwards mill in February. He was formerly assistant superintendent, and following retirement of L. C. MEYER in August, 1949, acting superintendent.

OLLIE W. MESSNER, who has been in charge of changing Sangamon Paper Mills from straw to high grade boxboard, has been elected vice president of Sangamon Paper Mills, Inc., main offices, Chicago and mill at Eaton, Ind., according to announcements by Samuel J. Cohen, president. Messner will continue to serve as superintendent and production manager. Timothy J. Russell was re-elected assistant to the president.

RICHARD G. COKER, vice president in charge of engineering for Sonoco Products Co., Hartsville, S. C., and **J. H. MARTIN**, general production manager for the mill, left on February 19 on a trip to Mexico for the purpose of studying the possibility of establishing a Sonoco plant down there.

JAMES L. MADDEN, president of Hollingsworth & Whitney Co., Boston, has been elected a director of the Boston & Maine Railroad.

WHITEY ENGERT has been named superintendent of the Mobile Paper Mill Co., Mobile, Ala.

A. G. SHARP has become general sales manager and assistant to Vice President John R. Kimberly, and **J. B. Catlin** was named general merchandising manager of Kimberly-Clark Corp., Neenah, Wis.

ROBERT B. WOLF, who retired some years ago as manager, pulp division, Weyerhaeuser Timber Co., joined Weyerhaeuser pulp sales executives at the annual Salesmen's Association luncheon during this year's "Paper Week" in New York. Upon retirement Mr. Wolf returned to his native New England, but keeps in close touch with the industry. He is now actively studying toward conclusions and application of a new approach to labor relations.

JOHN D. COWAN, who was just recently made a vice president of the West Virginia Pulp and Paper Co., New York, was elected to the company's board of directors by stockholders Feb. 13. He began with the company in 1929, and for four of 12 years at Charleston, S. C., he was assistant manager in charge of operations there. Among stockholders re-elected: William J. Bailey, Charles A. Cass, Theodore A. Cook, Henry F. Harrison, D. Luke Hopkins, David A. Luke, Jr., and William G. Luke. Richard H. West, New York banker, was also elected a new director.

RUSSELL J. LeROUX, mill manager for Weyerhaeuser in Everett, and his wife, drove to Southern California to join his parents, Mr. and Mrs. Levi LeRoux, from Brainerd, Minn., for a holiday. The elder LeRoux was former Brainerd mill manager.

MYRON H. HAWKINS has been named purchasing agent for Gulf States Paper Corp., Tuscaloosa, Ala., replacing W. C. Washburn, who was transferred to traffic.



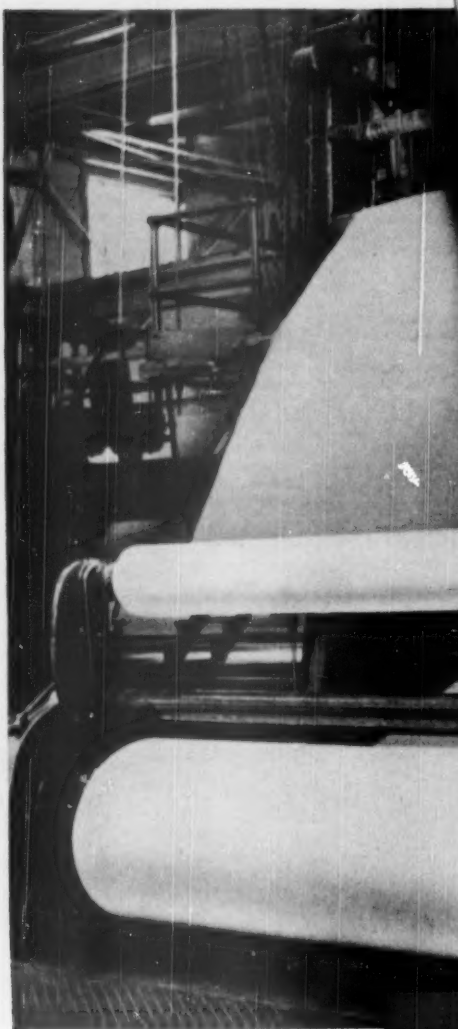
THE REDLIN BROTHERS whose combined service to the paper industry totals 236 years as of March 10. First row: Chester, Arthur, Melvin; second row: George, Seth, and William. All are active paper machine tenders, except Arthur Redlin, who is vice-president in charge of manufacturing, Beach and Arthur Paper Co., Modena, Pa.

Arthur W. Redlin, vice president in charge of manufacturing, Beach and Arthur Paper Co., Modena, Pa., believes that he and his five brothers have set one of the longest family records for combined continuous years of service as actual papermakers. That record as of March was 236 years. We know, of course, of many families in the paper industry brother groups, like the Rozyskies and Michauds in the South, the Sievers, Schmalzes and Wilkes in various regions. The Redlins and this magazine would like to hear from them and others as to their aggregate records.

Five of the Redlin brothers are active machine tenders, and Arthur has held his position as vice president for 12 years and came from Kimberly-Clark Corp. with a total record of 38 years. Four of the brothers are machine tenders at Neenah Paper Co., Neenah, Wis., and add 161 combined years. They are George, 46 years; William, 46; Melvin, 37, and Seth, 32, all at Neenah. Chester is now machine tender at the Lakeview mill of Kimberly-Clark, Neenah, and the past 26 years of his 37 years have been with K-C.

It is a record to be proud of, a tribute to the Redlin brothers and to the industry.

YOU CAN BE **SURE**... IF IT'S
Westinghouse



**Westinghouse
Drives**

FOR PAPER FINISHING
AND CONVERTING
MACHINERY



Westinghouse

**EQUIPMENT FOR THE
PAPER INDUSTRY**

HERE'S HELP...

in selecting the right drive for your finishing and converting machinery

Here's a new booklet to help you select the right drive for your paper finishing and converting machinery. It shows how the right drive applied to the equipment you now have in service, as well as future installations, will help you produce consistently uniform paper products—faster and at lower cost.

Drive requirements differ as much as the finishing and converting machines themselves. Some can use packaged drives. Others need tailor-made equipment. Required operating ranges and degrees of speed control are different. This booklet helps you select the one best drive that will get the most out of your equipment.

For your copy of this useful booklet, just fill out the coupon below. Naturally, our Paper Industry Specialists are readily available for further assistance. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-94799

SOME WESTINGHOUSE DRIVES FOR FINISHING & CONVERTING:

AV Life-Line Packaged Drive

Modern Westinghouse Supercalender Drive

MOT-O-TROL, the all-electronic packaged drive

Westinghouse Winder Drives

Co-ordinated drives for individual coater and corrugating machine sections

HOW WESTINGHOUSE DRIVES IMPROVE PERFORMANCE

Here are some of the advantages that modern Westinghouse electric drives bring to finishing and converting mill operations:

Higher operating efficiency from centralized control of all machine operations with adequate metering. Breakage and outage time for rethreading are reduced.

Lower operating costs from co-ordinated electric drives. Eliminating mechanical devices saves power, reduces maintenance.

Westinghouse Electric Corp., Dept. PP-4,
P. O. Box 868, Pittsburgh 30, Pa.

Gentlemen:
Please send at no charge my copy of "Westinghouse
Drives for Paper Finishing and Converting."

Name _____
Title _____
Company _____
Street _____
City _____ State _____

NEW NEUTRAL SULFITE PLANT

Ontario Mill Now Uses 75% Hardwoods

Unique in that it has used as many as 21 different species of wood in its manufacturing processes and sometimes as much as 100% virgin hardwood is the Sturgeon Falls division of Abitibi Power & Paper Co., whose mill is now producing about 100 tons of 12-point corrugating board daily.

This is one of the oldest paper mills in Ontario, but during the past two years it has been subjected to such a thorough transformation, with the introduction of new machinery, equipment and operating techniques that it offers little resemblance to the original plant, except in outward appearances.

Sturgeon Falls used to be a newsprint producer, but when President D. W. Ambridge and other Abitibi executives developed their expansion program which has now materially affected practically every unit in the company it was decided to let Sturgeon Falls concentrate on corrugating board, and the mill's mechanical setup was reorganized accordingly.

There is probably no other mill in the country offering so few reservations to its pulpwood suppliers. Literally speaking, if it's wood, Sturgeon Falls can use it. About the only species that isn't welcome is white cedar, and so little of it is ever offered that the exception is akin to saying that Eskimos aren't partial to bananas.

This all-embracing pulpwood utilization faculty of Sturgeon Falls has been a blessing to scores of farmers with woodlots in adjacent regions and to contractors who ship their pulpwood by rail from a radius



A. L. FARNSWORTH, manager, and TED D'ARCY, foreman, of Abitibi's Sturgeon Falls mill near North Bay, Ontario.

of about 100 miles. Sturgeon Falls is located on the main line of the Canadian Pacific Railway about midway between Sudbury and North Bay.

When the farmer or the pulpwood contractor gets the green light from the woods department he can go ahead with logging, knowing that he can sell every stick that meets specification for size and quality, regardless of whether it is softwood or hardwood. About 75% of the customary run to the pulp mill is hardwood. Because this is a company that produces in its many mills almost every type of pulp and paper, it is handy to have a mill like Sturgeon Falls which can utilize species rejected by other mills.

The woods operation of Sturgeon Falls is actually directed from Sault Ste. Marie;

but none of the mill's wood comes from Abitibi's limits as yet. Independent contractors and farmers are the present source of supply. There are no stacked block piles. It is stored, unbarbed, in piles not more than 12 feet high like cordwood.

Key Personnel

Manager of the Sturgeon Falls mill is A. L. Farnsworth, who has worked his way up through the engineering field with experience in several Canadian mills, starting in the St. Maurice Valley in the early '20's. He was with Price Brothers; the old Spanish River Co., and Howard Smith.

Edward (Ted) D'Arcy, with many years in the Abitibi organization behind him, is foreman; Robert Gill, paper mill foreman; Frank Clark, electrical foreman; Pat Clifford, steam plant foreman; W. E. Bunting, mechanical foreman; Ed Getzinger, wood-room and yard foreman; John E. Freeman, resident engineer; Clare Gain, control chief; F. E. Sullivan, office manager; Howard Garner, storekeeper, and Oscar Rivet, wood buyer. At Sault Ste. Marie are E. E. Grainger, assistant woods manager, for Sturgeon Falls, under Divisional Woods Manager D. J. Munro.

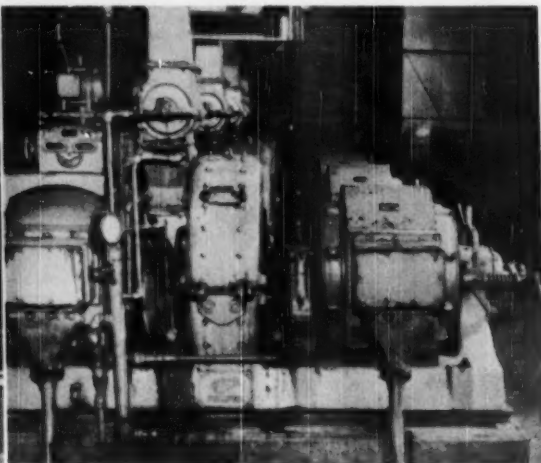
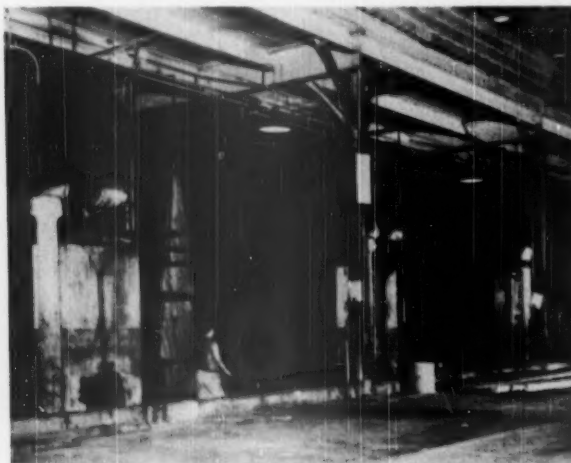
Improvements at Sturgeon Falls

The past two years have been busy ones for Mr. Farnsworth and his staff. The rehabilitation program, so far as its major features are concerned, has now been completed.

Here are some of the main installations that have played an important part in

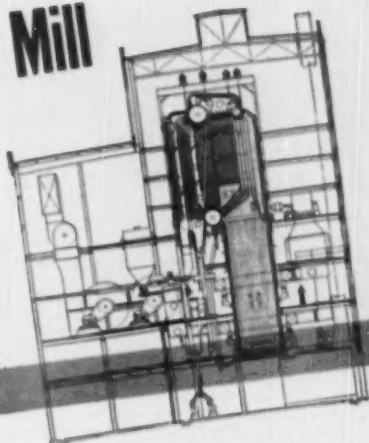
At left—Some of five new rotary digesters recently installed at the Sturgeon Falls mill of Abitibi in Ontario. These 15-ft. digesters were manufactured by Biggs Boiler Works of Akron, O., and are among the more important features of the modernization program.

At right—End view of one of the six new Bauer refiners now in operation at the Sturgeon Falls mill of Abitibi. Those refiners play an important part in expediting and improving production at this old Ontario mill.

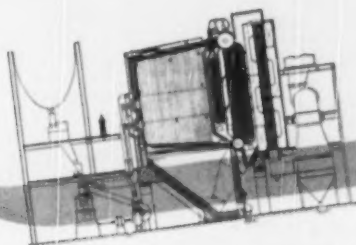


all steam requirements at Macon Kraft Mill supplied by C-E

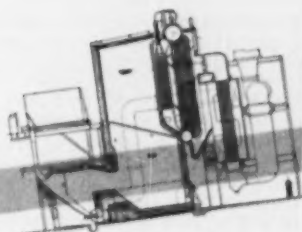
One of the two duplicate C-E Recovery Units installed at Macon. Each is designed to burn 900,000 pounds of dry solids per 24 hours and will produce steam at a pressure of 865 psi and a total temperature of 750 F.



One of two duplicate C-E Vertical-Unit Boilers installed at Macon. These boilers are pulverized coal fired and are designed to produce 150,000 lb of steam per hr each at 865 psi and 825 F.



This is a C-E Vertical-Unit Boiler equipped with a 3-cell Hoff furnace for bark burning. This unit is designed to produce 100,000 lb of steam per hr at 865 psi and 825 F.



One of the finest new pulp and paper mills in the South is that of the Macon Kraft Company at Mead, Georgia, now completing its second full year of operation.

Outstanding in many respects, the Macon Mill was the largest single-machine container board mill ever placed in service. It pioneered in the use of higher steam pressures and temperatures on the power end of the operation.

All steam generating equipment, comprising 2 C-E Recovery Units, 2 C-E Vertical-Unit Boilers fired by pulverized coal and a bark burning Vertical-Unit Boiler, was supplied by Combustion Engineering-Superheater, Inc. These units are here illustrated and briefly described.

C-E Recovery and power boiler equipment has been service-proved at Macon Kraft as it has in many of the

best known pulp and paper mills in the country. May we have the opportunity to quote whenever you are in the market for steam generating and recovery equipment?

B-301

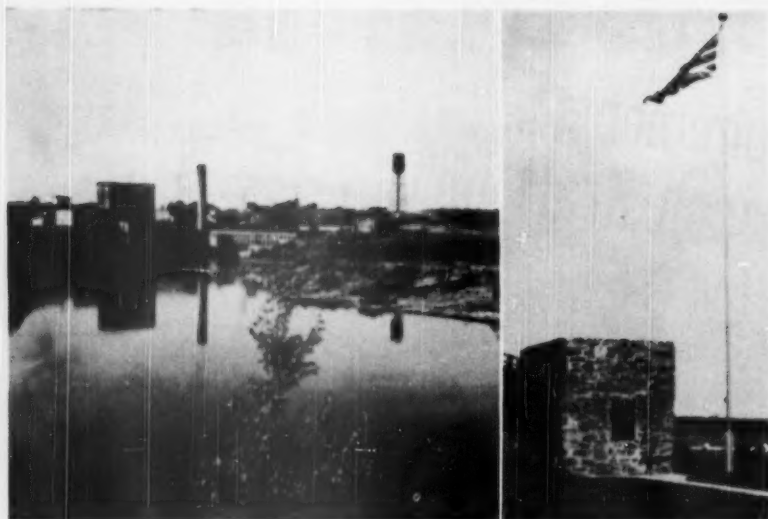


**COMBUSTION
ENGINEERING-
SUPERHEATER, INC.**

200 Madison Avenue • New York 16, N. Y.

Los Angeles—510 West 6th Street; San Francisco—116 New Montgomery Street; Seattle—Skinner Building.

PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; ALSO PRESSURE VESSELS



STURGEON FALLS mill of Abitibi Power & Paper Co. is shown at left. At right is MEMORIAL to Abitibi employees who served in World War II. It was formerly part of a vault used years ago. Sturgeon Falls has been a pulp mill location for half a century.

Sturgeon Falls' new role as a board producer:

Five new 15-ft. spherical rotary digesters manufactured by Biggs Boiler Works of Akron, O.; six Bauer Bros. refiners from Springfield, O.; chip extractors built by Southern Extract Co. of Nashville, Tenn., one for each digester; two Hermann Claflin refiners made by the Hermann Manufacturing Co. of Lancaster, O.; a series of Link-Belt chain conveyers used for moving 4-ft. pulpwood from the stockpile to the mill and also for other purposes inside the mill; Goodyear rubber belts for chip conveyance; three Bird Jonsson knotters supplied by Ingersoll-Rand; Dominion Engineering Co. suction couches and suction press for the 154-inch Pusey & Jones machine, originally installed in 1921 and converted from newspaper production; a Dings magnetic separator from Milwaukee; a Williams & Wilson traveling extractor screw; Commonwealth motors for digester rotation and other facilities; Foxboro pressure and temperature controllers; Ross-Grewin supplementary drying system; Clark loaders; Stephens-Adamson system for conveying bulk sulphur and soda ash; a Redler conveyor to carry soda ash from the bottom of the hoppers to the soda ash dissolving tank; sulphur melter and burner by Port Arthur Shipbuilding Co.; Northern Foundry pumps; T. McAvity & Sons valves of stainless steel, stoker-fired, 400-b.h.p. boilers, 175 lbs. pressure by Babcock & Wilcox, the latter being a holdover from the earlier plant.

New Neutral Sulfite Cook System

Sturgeon Falls makes its own chemical and has built a new building for this operation at a cost of \$200,000, with its new cooking system going in the past year. At first a mild soda ash cook was used, but cooking is now done with a neutral sulfite process in which a mixture of soda

ash and sulfur dioxide is utilized. The conventional Jensen tower is dispensed with in this operation. There are three welded steel hoppers for soda ash storage and one for sulfur, the chemicals being delivered to their respective hoppers by Link-Belt tripper. The mixture is agitated by pump circulation and when the soda ash solution is dissolved it is pumped to one of the two welded steel sulfiting tanks.

Sulfur falls by gravity into a melting pot below the hopper and steam coils in the pot do the melting. From there the sulfur flows by gravity to a rotary sulfur burner, the flow being regulated by Foxboro controls to maintain a constant level of liquor sulfur in the burner. Sulfur dioxide gas is blown through a wood absorption tower with wood baffles and simultaneously the soda ash solution is pumped from one of the sulfiting tanks into the top of the tower. The liquor is recirculated through the sulfiting tank and tower until up to required strength. The sulfiting tanks are maintained at 180 degrees F. to prevent crystallizing. When the liquor in one tank is up to strength, the tank is cut off from the tower and used as storage for the digesters while the other tank is being sulfited.

Spent liquor from the digesters, which is used to make up liquid volume in the digester to recover some of the heat, is stored in another tank in this chemical building, which is one of the most interesting and smart-looking features of the whole mill, and one of the most modern in the industry. There is such high yield of pulp that there is very little dissolved material in the spent liquor.

Other Manufacturing Processes

Chipping is done by a Waterous four and a Baker five-knife unit which has been at Sturgeon Falls for some time. The chips are cooked for 4½ hours at maxi-

mum pressure of 120 p.s.i., after which spent liquor is blown into a receiving tank. The partially cooked chips are dumped into a concrete pit at the bottom of each digester. Percentage yield of pulp from wood is about 90 per cent, nearly double the usual recovery in the sulfite or sulfate processes. Extractor screw at the bottom of the pit removes the chips, the pit being fed by a "leach caster" made by Southern Extract Co., consisting of a rotating scraper arm with fingers attached in such a way as to direct the chips towards the screw. A drag conveyor and elevator serviced by a Dings magnetic separator to remove ferrous material moves the chips above the battery of Bauer refiners.

Stock consistency is regulated by a Brammer unit and from there the stock is pumped through the Claflin refiners equipped with 150-hp. Westinghouse motors, and then over the stuff box to the fan pump.

A General Electric motor generator has replaced a steam turbine in powering the Bagley & Sewall machine. Two of three Jonsson screens are in constant use, one being a standby. There are 32 dryers, with the Ross Engineering system maintaining uniformity.

The board is rewound into rolls varying in weight from 1200 to 3000 pounds with a maximum width of 92 inches. Acme steel strap about ¾ inches wide are used to bind the rolls for rail shipment.

History of the Sturgeon Falls mill goes back to the early years of this century, the original plant having been built by Imperial Paper Mills Co., in 1902, the capacity being less than 50 tons a day. Water wheels drove the first grinders.

A Busy Year for Abitibi's Engineering Staff

The year recently ended was an exceptionally busy year for W. G. Reekie, chief engineer of Abitibi Power & Paper Co., who was in charge of design and construction of the company's Iroquois Falls mill, whose modernization program was described in **PULP & PAPER** for January.

Mr. Reekie and his Toronto staff were also largely responsible for planning and executing the improvements at Abitibi's mills at Thunder Bay, Sturgeon Falls and elsewhere. Mr. Reekie's principal assistants are: H. Clappison, construction engineer; H. L. Sanborn, electric and hydraulic; R. W. Sterns, development; G. L. Stuart, steam; J. Eyton, electrical.

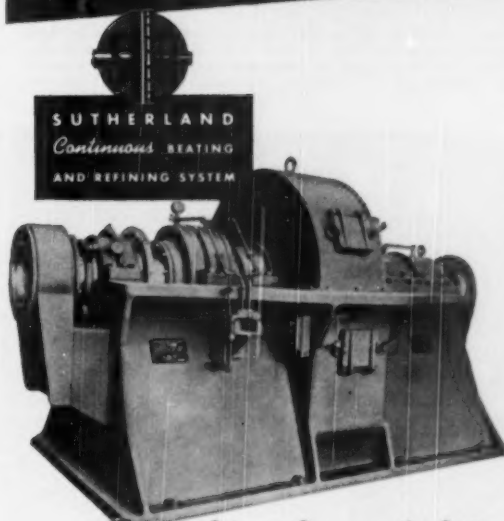
New Hospital Opens At Smooth Rock Falls

Newest of Ontario's far north hospitals, and the most modern of its kind, will serve the pulp mill town of Smooth Rock Falls on the Mattagami River, where Abitibi Power & Paper Co. produces bleached sulfite pulp.

Among those attending the opening were: D. W. Ambridge, president of Abitibi; W. H. Smith, vice president; W. J. Askin, manager of mills; C. B. Davis, manager of woodlands; T. A. Hendry, sales manager; P. E. Roberts, manager of new developments; Howard Young, treasurer; J. O. McKerron, general traffic manager; E. W. M. Paukert, manager of the nearby Iroquois Falls mill; W. N. Corbett, townsite manager.

W. A. Plant, manager of the Smooth Rock mill, is president of the hospital board.

MORE THAN JUST A REFINER



Yes, each of these Sutherland Refiners, installed in a Southern Kraft mill, is more than just a Refiner—it's a Continuous Beating System in itself. With a Sutherland, there's no need to define beating and refining as separate operations, because both are accomplished by a single unit in a single pass operation. Here are four important advantages you get when pulp is treated by the Sutherland Continuous Beating System: (1) Rapid mullen development; (2) Retains higher tear and, with some pulps, shows a higher tear than the raw pulp over a wide freeness drop; (3) Produces equal mullen at higher freeness resulting in faster drainage, thus permitting increased machine speeds and higher production; (4) Less wet and dry broke, therefore less rehandling of broke and more net tonnage, and (5) Parallel operation permits great flexibility in stock preparation, rapid changes in grades and sheet characteristics. Write for recommendations on how the Sutherland Continuous Beating System can be put to work for you.

Sutherland Refiner Corporation

TRENTON, NEW JERSEY

Manufactured in the United States by Valley Iron Works Co., Appleton, Wisconsin
Sutherland Refiner Limited, Windsor Hotel, Montreal, P. Q.

KRAFT MILL AND BLEACHERY DESCRIBED

NEW FRASER PLANTS

The start-up of the new 120-ton sulfate pulp mill of Fraser Companies, Limited, at Newcastle, N. B., and a 6-stage sulfate bleach plant at Edmundston, N. B., was reported in our January issue and in that issue was a brief description of this mill—the newest pulp producer in Canada—and of various other improvements and additions to Fraser mills at Edmundston and Atholville, N. B., and Mada-waska, Me.

A PULP & PAPER editor visited the Fraser operations, viewing the new installations at Newcastle and Edmundston as they were well along in construction. There are several unconventional features which will be described in this article.

The great Fraser organization dates back to 1874, when Donald Fraser, Sr., a Scottish colonist, started producing pit saw lumber for settlers near Kincardine, N. B.

President of Fraser Companies today is Aubrey Crabtree, who joined the staff in 1930 and became vice president and general manager soon after the outbreak of World War II when President K. S. MacLachlan became associate deputy minister of national defense for Canada. Mr. MacLachlan resigned from the presidency in 1940 and was succeeded by Mr. Crabtree. At the same time, L. M. Sherwood,

who had been secretary and treasurer, was appointed vice president and controller.

Through the cooperation of Fraser Companies, Ltd., we are now able to present complete descriptions of the kraft mill and kraft bleach plant, built under the engineering direction of Frank O. White, Maine-born builder of the Restigouche mill, who has been with Fraser since 1929. The Newcastle plant is operating under the superintendency of Ralph B. Murchie, formerly of Edmundston staff. The sulfate pulp is shipped by rail 250 miles west to Edmundston for bleaching in the new six-stage continuous plant with bleach equipment by Sherbrooke Machineries, Ltd., who cooperated in its engineering phases.

Major equipment in the Newcastle mill includes an 800 psi. water pressure hydraulic barker with 6-stage Ingersoll Rand pump; two 10-knife Carthage chippers; four standard mild steel Dominion Bridge 11 x 47 ft. digesters with indirect cooking and circulation; two Jonasson knot-terers ahead of two 9 x 12 ft. Swenson-Nyman washers; four lines of Smythe flat screens (one for rejects) and a 136-inch PML-Kamyr cylinder wet machine, all supplied by Paper Machinery, Ltd.; an 8 x 12 ft. Oliver United vacuum ring-valve filter ahead of the Kamyr; Ross

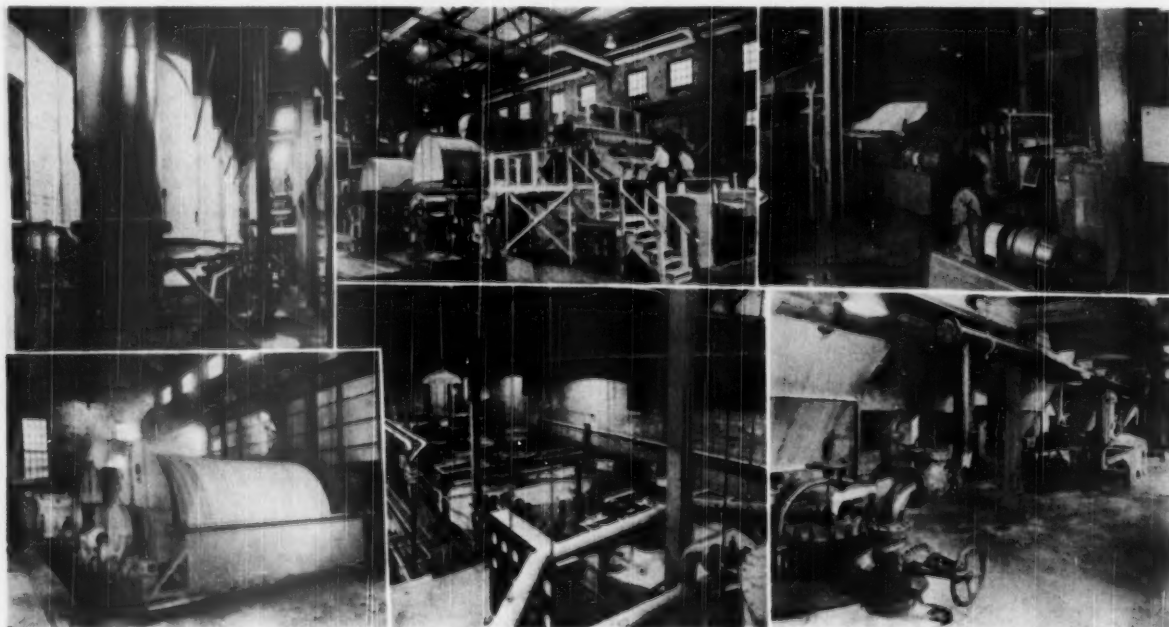
Engineering heat and ventilation; tanks and chests tile-lined by Canadian Stebbins; a John Inglis sextuple effect evaporator engineered by James Rubush; a 50,000 lbs. per hr. Combustion Engineering furnace; D. J. Murray Cascade evaporators; Cottrell Precipitator; Dorr continuous causticizing equipment; 200-ft. Traylor lime kiln; two Westinghouse turbines; a Canadian G.E. filter plant, and Link-Belt and Jeffrey conveying equipment.

The primary hydraulic barker was designed by Chief Engineer White. A secondary hydraulic barker is an old used Streambarker in the wood room for secondary cleaning when required.

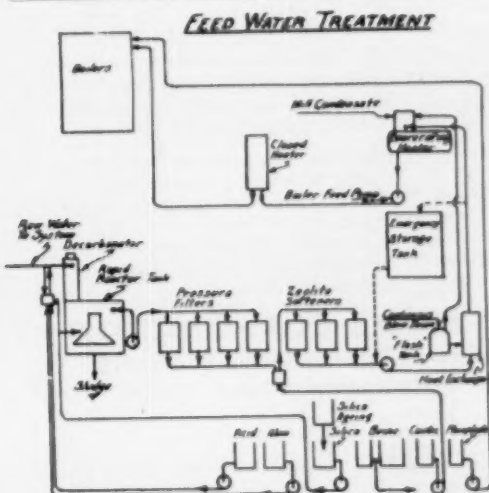
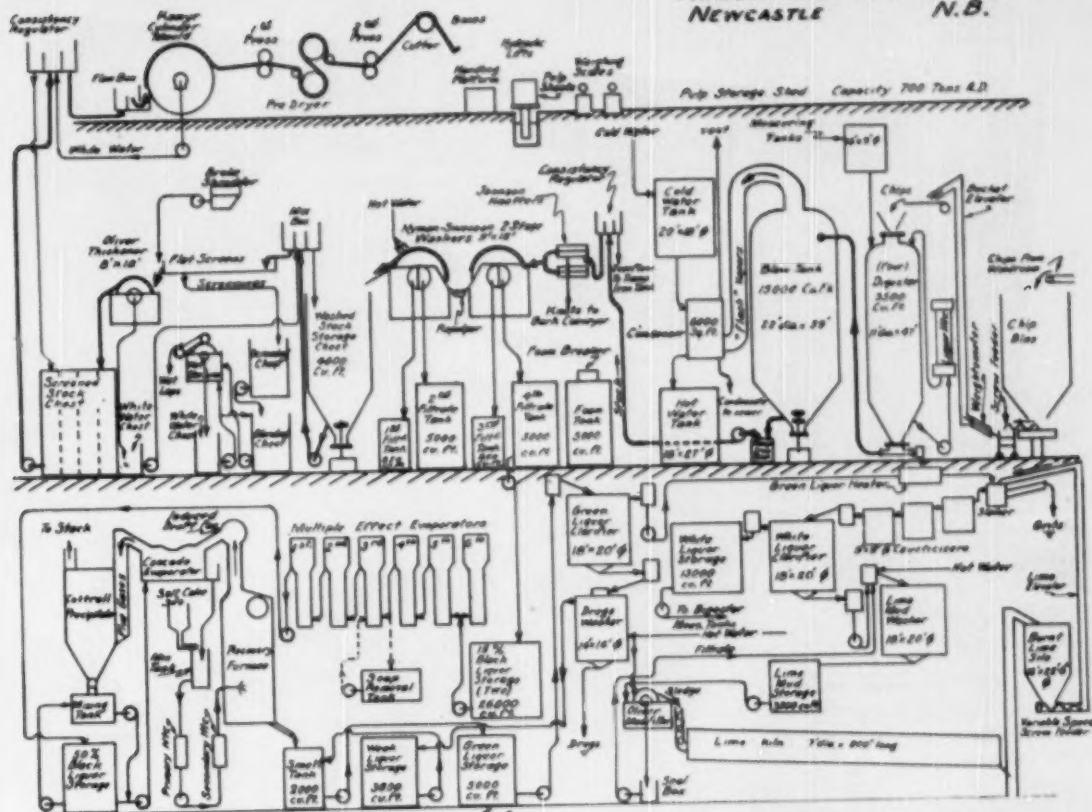
At Edmundston, in the new bleach plant, the stages can be varied in order and number, with chlorine, alkali, high density and low density hypochlorite and SO₂, and the plant can handle the 120 tons a day capacity of the sulfate mill.

Of the six towers, three high density towers are of Fraser's own design with no scraper at the bottom and stock removed by water jets at the base. This is an innovation for bleach towers but similar to two that Fraser has in its older sulfite bleach plant, which adjoins the new kraft bleach plant. For ease of operation and supervision they are adjacent and are

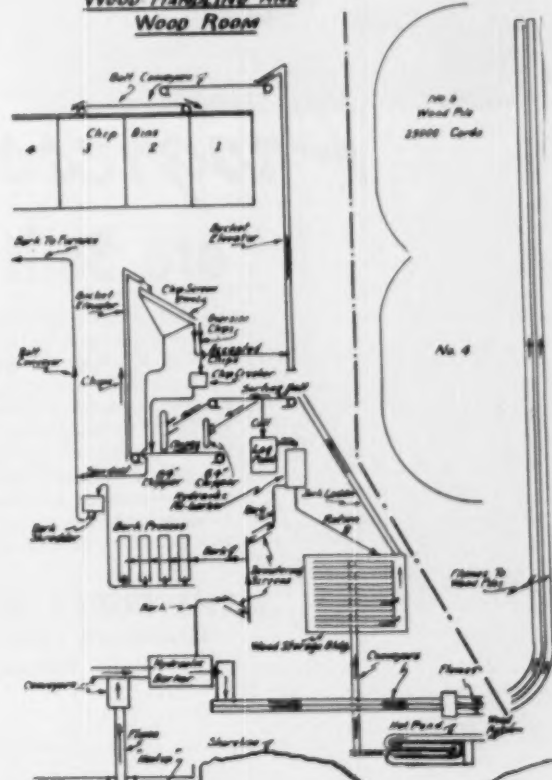
EQUIPMENT AT FRASER COS. MILLS (L. to R.): Top row—Evaporators installed at Newcastle mill by John Inglis Co., Toronto, designed by James Rubush of Wenatchee, Wash. Kamyr machine installed by Paper Machinery, Ltd. Operating floor of bleach plant at Edmundston mill, which is handling output from new unbleached sulfate mill at Newcastle, and was principally equipped by Sherbrooke Machineries which helped in engineering. Bottom row—Nymen Swenson brown stock washers installed by Whiting Corp. of Canada. Dorr causticizing system. Operating floor of digester.

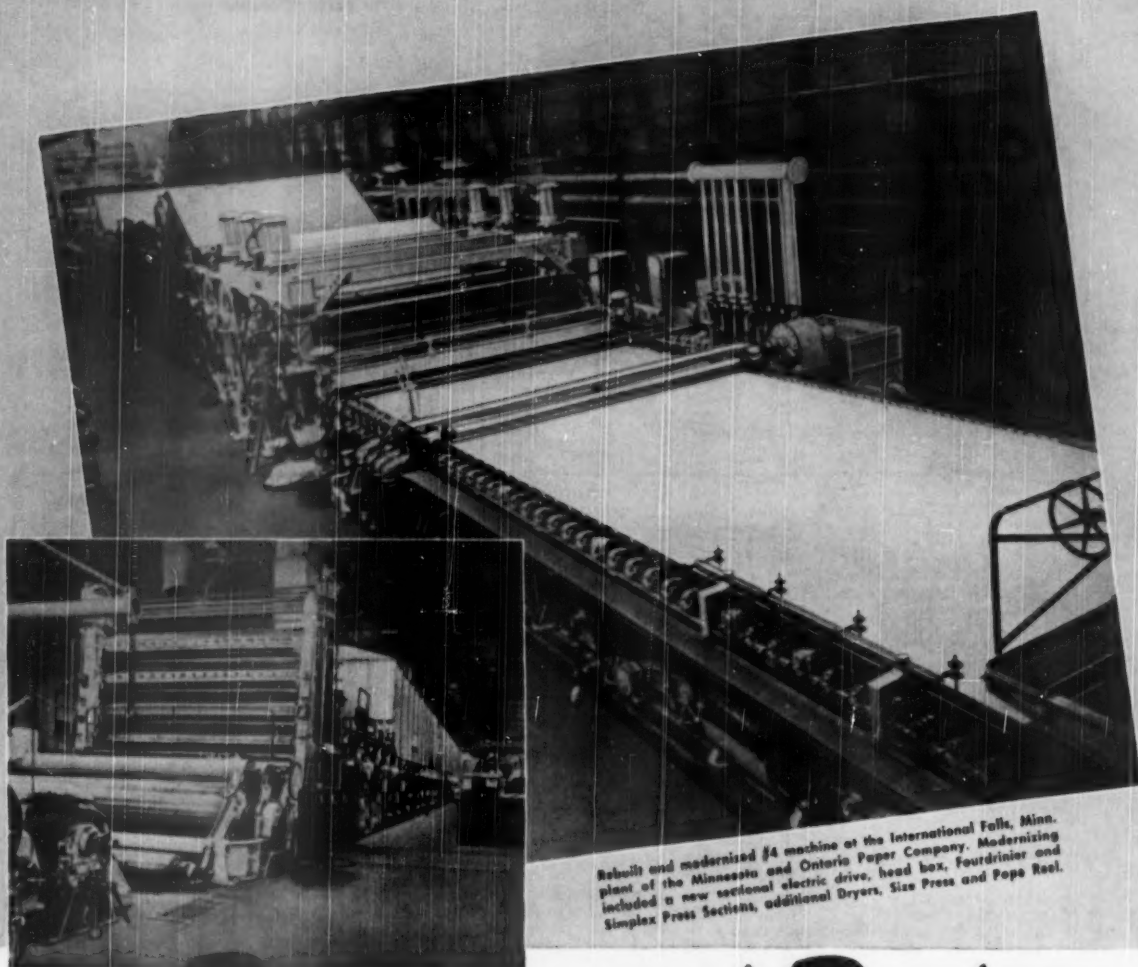


FRASER COMPANIES LIMITED
NEWCASTLE N.B.



WOOD HANDLING AND
WOOD ROOM





Rebuilt and modernized #4 machine at the International Falls, Minn. plant of the Minnesota and Ontario Paper Company. Modernizing included a new sectional electric drive, head box, Fourdrinier and Simplex Press Sections, additional Dryers, Size Press and Paper Reel.

Progress and Profits are Built on Modernization

Pusey Jones engineers have assisted in the rebuilding and renovation of paper making machines in many leading mills across the country—stepping up speeds, improving qualities, increasing profits. An outstanding job of modernization carried out by Pusey Jones is the rebuilt and modernized machine of the Minnesota and Ontario Paper Company shown above. This 184 inch machine was originally installed in 1910.

A machine modernization program may call for the addition of a new appliance, the replacement of an obsolete drive, or may involve the complete rebuilding of the machine itself.

When maintenance costs become excessive or when a greater range of higher grade paper products is required, get the benefits of Pusey Jones experience. Talk over your machine rebuilding problems with Pusey Jones engineers. Write us today.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U.S.A.



so arranged—that operators can see all washers from one point. There is plenty of headroom with crane rails for bringing cylinders over the top of equipment.

Major kraft bleach plant equipment includes the Sherbrooke agitators, thickeners, tile linings by Canadian Stebbins instead of more common steel for towers and vats; stock flow and remote control by Foxboro and their Canadian representative, Peacock Bros., and in the steam plant an additional 3750 kva. Westinghouse turbine for power, of which about 1200 kva. operates the bleachery. The bleach plant is 90 x 60 ft. and 65 ft. high of steel frame and brick walls, with three floors and a basement.

In both sulfate mill and bleach plant instruments are by Foxboro, Bristol, Fischer & Porter, Bailey and Leeds and Northrup. Various pumps in both plants were from Bingham Pump Co., Ingersoll Rand; Canadian A-C; Northern Foundry and Worthington. Piping and valves were from Crane, Ltd., Grinnell, Ltd., T. McAvity and R. F. Walsh, the latter also providing Lithocoting.

Storage of 400 tons of the kraft pulp in lap form from Newcastle is provided at Edmundston. Considerable jackpine and hardwoods will be used in the kraft process.

Bleach Plant Description:

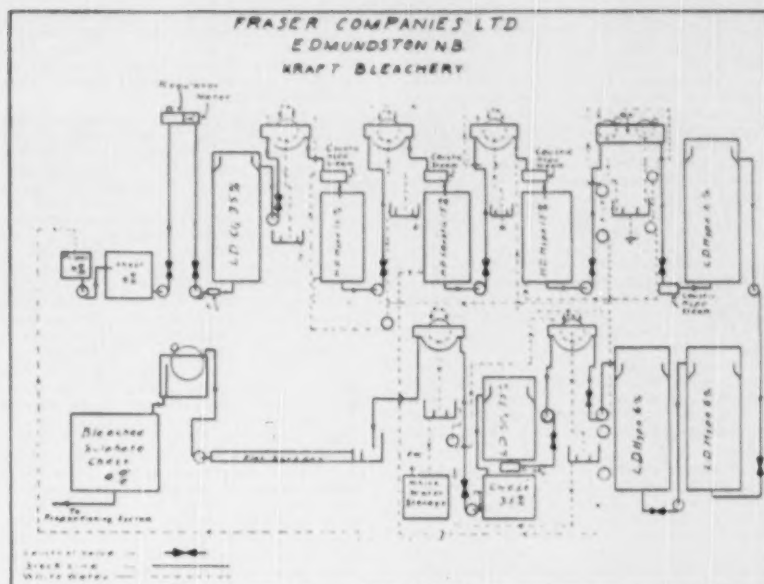
First shipments of unbleached sulfate pulp from the Newcastle mill started rolling to the company's new bleach plant at Edmundston last November, the bleach plant getting into operation the following month. During that period the blending of bleached sulfate pulp with bleached sulfite pulp for the manufacture of pulp at the affiliated mill across the border at Madaewaska, Me., was started.

Approximately one half of this product is at present being used in the company's mills and the balance sold on the market in bleached form. The inclusion of this new fiber in the manufacture of many grades of paper has already resulted in quality improvement as well as permitting a greater diversification in end-use.

Unbleached kraft pulp is delivered in 1800-lb. skids at about 55% moisture, fed by conveyor to the Valley Iron Works pulpers, pulped to 4% consistency and passed to a stock chest of 5.7 tons capacity. Raw stock is pumped to a Control Equipment Corp. (Kane, Pa.) consistency regulator on the top (operating) floor where it is adjusted to 3.5% consistency and is metered to the chlorination stage by a stock meter.

Chlorine is metered into the stock by means of a liquid chlorine rotameter and control valve, entering through a line-mixer at the base of the chlorinating tower. Stock passes to three high density stages, each consisting of a tile-lined tower below a high density washer dropping stock at 15% through a mixer. High pressure water nozzles at the base of each tower dilute the stock before pumping. In the first tower, hypochlorite and caustic are added at the mixer, in the second, caustic, and in the third, hypochlorite and caustic. Steam is introduced at mixers to keep stock at required temperature.

From the last high density tower (second hypochlorite stage) stock is pumped to a Sherbrooke double cylinder decker-type washer and thickener and thickened to 6% consistency. Controlled steam is added, and stock is pumped through a line mixer, where hypochlorite and caustic are added, to the base of the first of three low density towers, each tile-lined and with central agitator. Stock pumped into the bottom, overflows the top and is pumped into the base of the next tower. In each tower, hypochlorite and caustic may be added. From the last tower, stock is pumped to another Sherbrooke washer, thickened to 3.5% and pumped through a line mixer into the base of



a small agitated reaction tower, where it is stabilized with SO_2 introduced in solution at the pump. Stock overflows and is pumped to a sixth washer; then flows by gravity to Smythe flat screens for the final screening. There are three lines of three sections for primary screening and a tailing line of two sections. Chrome plated plates of 0.008" and 0.007" cut are used. Accepted stock is pumped to three deckers, thickened to 4.0% and dropped into a storage chest of 12 to 15 tons capacity.

Beside this storage chest is a bleached sulfite storage chest of the same size. Consistency of the stock from each chest is regulated to 3.5% by separate Control Equipment Co. regulators before being pumped through a Rate-sleeve and ratio controller to a common blending box.

From the blending box, bleached pulp in any ratio of sulfite to kraft, or unmixed, may be delivered to the paper mill.

Most stock and water valves are Saunders type and operated by Foxboro air cylinder positioners remotely controlled from a single console on the operating floor. Control buttons for most pump motors are on the console.

The plant is almost completely instrumented. Nearly all instruments are on a single panel beside the console. Temperatures in all tanks and towers controlled and recorded and stock levels in the storage tanks and chests, white water chests and high density towers are recorded. The pH is measured and recorded after each stage and controlled and recorded in the SO_2 tower. A second panel on a lower floor records steam and water usage and effluent going through a Parshall flume.

A pulp storage building, about 10,000 sq. ft. of floor space, is for incoming unbleached pulp. Car unloading is done by Elwell-Parker electric fork trucks.

NEWCASTLE MILL DESCRIPTION: Wood

A canal, 90 ft. long, 20 ft. wide, connects the up and downstream holding grounds for conveying wood to two jack ladders back to back with feed ends at either end of the canal. Each has two chains with cross angle attachment and is about 43 ft. long by 10 ft. wide. From jack ladders, logs drop to the first flume, 3 by 3 ft. and 190 ft. long, which conveys logs to the barker building.

A two-chain, 4-ft.-wide conveyor elevates logs to the hydraulic barker. For bark removal, 1,400 g.p.m. of water at 800 lbs. p.s.i. pressure is supplied by a Canadian Ingersoll-Rand six-stage Cameron pump driven by a Worthington-

Moore condensing steam turbine. Bark is sluiced to a dewatering screen, then by belt to four Hydraulic Machinery Co., Ltd., Nekosoa presses, each with capacity of 7,500 lbs. per hour. Bark will still have 60-65% moisture and is conveyed to a Jeffrey 36-in. by 30-in. swing hammer shredder, and then to a Hoff storage bunker over auxiliary furnace.

Barked logs are conveyed by a 3 1/4-ft. belt to inclined chain conveyors. All segregation to conveyors by species is done in the barker building. Conveyors carry wood to two flumes, 1360 ft. in length, which carry to stackers. A hopper arrangement discharges the wood to the feed end of the stacker and water drops to the return flume below. Each wood pile has a capacity of 25,000 cords of wood. Wood is reclaimed from the piles by underground chain conveyors and fed into the lower flume for sluicing to the hot pond. Water from the hot pond is pumped to the upper flume. A single chain conveyor, 75 ft. in length, elevates logs from hot pond to a single-chain inclined 130-ft.-long conveyor to the wood storage building. Wood may also be sent direct from barker to mill storage building. The storage building conveyor continues overhead the full length of the building, with gates to discharge wood. Storage capacity is about 300 cords. A three-chain conveyor elevates the wood to the chipping floor. Any wood requiring rebarking is manually pulled off a sorting table and sluiced to a small hydraulic rebarker and returned to the system.

Two Carthage 10-knife chippers, one 64-in. and one 84-in., right hand 16-ft. spout, have total capacity of 50 cords per hour. Chips are elevated by bucket conveyor to two Dillon, 6 by 14-ft. shaker chip screens. Sawdust is burned. Oversized chips pass through a Waterous swing hammer crusher and return to screens. The accepted chips are raised by bucket elevator to belt conveyors over four chip bins, each with capacity of about 30 cords, or two digester charges. A Williams & Wilson twin-screw self-propelled chip feeder removes chips from the bin and conveys them to a short belt conveyor where chips are weighed automatically before being fed to a bucket elevator which delivers the chips to belt conveyors feeding hoppers over digesters.

Pulp Mill

Four Dominion Bridge digesters, each 11 ft. inside diameter by 47 ft. high and 3,500 cu. ft. capacity, yield about 7.5 tons air dry unbleached pulp. Each digester is equipped with burst ex-

changers for indirect cooking and circulating pumps. The liquor is drawn out of the bottom cone and returned to the top at the rate of 2,000 g.p.m. By-pass piping has been provided so as to continue circulation with direct cooking and to introduce direct steam through four nozzles around the bottom cone. The digester features complete automatic cooking controls, a separator for turpentine, Yarway motor-driven blow valves and a conductivity system for determining contamination of condensate returned to boiler house. Heat exchangers are 2-pass with 130, 1½-in. No. 16 B.W.G. type 304, stainless steel tubes, each 15 ft. long, each with effective heating surface of 637 sq. ft. A Dominion Bridge blow tank is 23 ft. inside diameter by 30 ft. high, equipped with an agitator fitted with a Thermoverter unit for automatic consistency control. A Swenson blow heat recovery system consists of a 6,000 sq. ft. surface condenser. Automatic temperature controls regulate the flow of cold fresh water through condenser to storage. Hot water is used for pulp washing, causticizing, and at the pulp machine. A temperature controlled heat exchanger utilizing low pressure steam, is after the hot water tank.

Consistency controlled stock from the blow tank passes through a 6 x 6-ft. tramp iron collector tank and is pumped to a Watrous consistency regulator for further dilution with black liquor; then to two Jonsson knotters in parallel ahead of two 9 x 12-ft. Swenson-Nyman two-stage washers. There are four filtrate tanks, the last with level controller with excess black liquor pumped to two 13,000 cu. ft. storage tanks. First and third stage filtrate tanks have capacity of 850 cu. ft. each, the second and fourth 3,000 cu. ft. each. Vent lines from the tanks are connected to a 5,000 cu. ft. foam tank with Sherbrooke Machinery's foam breaker. Suction at washers is maintained by an L-8 Nash Hytor vacuum pump, with entrainment tower. Pulp drops to a washed stock storage chest. This is a steel tank with a cone bottom steel tank with agitator. An automatic consistency controller serves stock removed, and pumped to the screen room headbox and three lines of Smythe flat screens with bronze vat. Rejects pass over a fourth line and tailings are sluiced to a 14 x 13-ft. high tile screenings chest. Each line is made up of three 14-plate sections, with slots .010 in., .012 in., and .014 in. From the chest, screenings are pumped intermittently to a 12 x 13-ft. tile blending chest and, from this, to a Watrous wet machine. A 5 x 13-ft. tile tank takes white water from the machine.

Accepted pulp from flat screens is conducted by wooden spout to an Oliver vacuum type ring valve filter, 8-ft. diameter by 12-ft. face. Washed stock drops to a screened tile 4-compartment stock storage chest below the washer. Stock at 3½% consistency is pumped from chest to a Watrous consistency regulator ahead of the 176-in. trim P.M.L. Kamyrr cylinder wet machine. The Kamyrr machine is equipped with feltless first and second presses. Cylinder mould and presses have pneumatic loading. With steam pressure controlled. A 125-hp. D.C. adjustable speed motor for the Kamyrr provides constant torque from 86 to 700 r.p.m. A standard pulp cutter and splitter follows. The pulp sheets are manually skid loaded. A gas-powered fork lift truck, 3,000-lb. load capacity, conveys loads to a platform scale and to storage or to freight cars. Effective storage area, one skid high, is estimated at 700 tons of air dry pulp.

Recovery and Chemicals

Thin black liquor (15% solids) is pumped from storage to John Inglis 6-body sextuple effect evaporators designed by James Rubush, of Wenatchee, Wash., and leaves the system at about 50% solids. Each evaporator is equipped with 258 two-inch No. 16 B.W.G. stainless steel tubes 24 ft. long, with the exception of the first effect where there are 240 two-inch No. 10 B.W.G. tubes. Each evaporator has effective heating surface of 2,800 sq. ft. Steam to first effect is pressure controlled and the flow recorded. Thin black liquor is split-fed and flow controlled to the fifth and sixth effects. The

Residue of the black liquor is automatically recorded. A skimming system with a soap removal tank has been installed. Heavy black liquor leaving the first effect is pumped to two steel storage tanks each with a capacity of approximately 2,300 cu. ft.

The Combustion Engineering recovery furnace is a 50,000 lbs. per hr. steam unit with superheater. It will generate steam at 600 lbs. p.s.i. pressure, and at 750° F. Hot flue gases from the furnace proper pass through Cascade evaporators countercurrent to heavy black liquor from the storage tanks, and then through a Cottrell electrical precipitator of three units, with capacity of 60,000 c.f.m., which 90-95% of suspended matter will settle out. A hopper and screw conveyor conveys solid material to a small solution tank where heavy black liquor from storage dissolves chemicals. This enriched black liquor is pumped to the Cascade evaporators with other black liquor from storage.

Salt cake is stored in two 750-ton storage silos is elevated intermittently by conveyor to a 4½ x 11½-ft. salt storage tank in the recovery building, whence it is fed continuously by controlled screw conveyor to a mix tank, where it is put in solution with heavy black liquor from the Cascade evaporators. Resulting liquor has solids content of 65-70% and is pumped continuously through a primary and secondary liquor heater to the furnace and burned. Molten slag falls into a tank to which there is added weak liquor. Automatic controls regulate flow of green liquor from smelt tank to storage and weak liquor to the smelt tank.

A green liquor storage tank, capacity about 5,000 cu. ft. is in the causticizing building, and part of the Dorr continuous system. Green liquor is pumped to a 3-tray 4-compartment green liquor clarifier, 18 x 20 ft. Sludge is diluted with fresh water and pumped to a 2-tray 3-compartment dregs washer, 14 x 16 ft. Clear liquor overflow is used as wash water later in the system. From the green liquor clarifier, clear overflow is pumped to a No. 6 Dorco lime slaker to which is added lime. A 200 sq. ft. spiral heat exchanger maintains temperature of liquor to slaker. Lime and green liquor slurry overflows through three 9 x 9-ft. Dorco causticizers in series to a 3-tray 4-compartment Dorr white liquor clarifier, 18 x 20 ft. Clear liquor overflow is pumped to a white liquor storage tank, with a capacity of 13,000 cu. ft., and is pumped intermittently to digester measuring tank for cooking. Sludge is diluted with the clear overflow from dregs washer, fresh hot water, and filtrate from the Oliver mud filter, and fed to the 3-tray 4-compartment Dorr lime mud washer, 18 x 20 ft. Clear overflow here is pumped to the weak liquor tank to be used in smelt or dissolving tank. Sludge is pumped to lime mud storage mixer tank, 15 x 15 ft.; diluted with hot wash water and the slurry is pumped to a 6 x 4-ft. Oliver vacuum type mud filter. The filtrate is returned to the Dorr lime mud washer and thickened sludge is fed by screw conveyor to 7 x 200-ft. rotary lime kiln. A Nash L-6 Hytor vacuum pump acting through spray trap and vacuum receiver creates suction at the filter.

The kiln is fired with Bunker "C" oil and hot lime drops to a water-jacketed conveyor for cooling before being elevated, and stored in the steel lime silo, 16 x 22½ ft. high, whence screw and bucket conveyors carry it to the lime slaker. Three-quarter-inch limestone is purchased and stored in two 750-ton storage silos. It may be fed to kiln along with sludge, or calcined separately.

Water

Fresh process water is obtained from the northwest millstream, where there is a dam and pump house filter plant. The dam has a sluice gate and a high and low spillway. Raw water is pumped to six 15 x 15-ft. gravity sand filters in parallel, and filtered water is stored in two clearwells. An additional pump back-washes filters. A 2,500 g.p.m. pump pumps filtered water to the mill and an auxiliary 2,500 g.p.m. gas engine driven pump is so located to pump either raw or filtered water direct to mill. A 16-in. (inside) 3,500-ft. wood stave line delivers water to a concrete 10 x 8 x 100-ft.

surge tank at the top of a hill. To overflow level, surge tank capacity is about 4,000 cu. ft. and elevation at this point is about 165 ft. above pump house floor. From surge tank to mill, there is a drop of 183 ft. and water will flow by gravity through 19,300 ft. of 16-in. pipe. Of the 22,800 ft. of 16-in. pipe, only 900 ft. is cast iron.

Raw water, about 60 g.p.m., is required for steam generation. Sulfuric acid, alum and silica are fed continuously from make-up and storage tanks to raw water ahead of a decarbonator tank directly above a rapid reactor tank. Additional silica can be added. A booster pump delivers water to 4 strainer type 3,000 gals. per hr. pressure sand filters in parallel, ahead of three 7,500 gals. per hr. Zeolite softeners in parallel. Weak caustic soda is introduced between filters and softener tanks. Piping makes possible bypassing. From softeners, water is pumped through a heat exchanger, utilizing blow-down heat and to a desalting heater. In parallel with this is a 2,000 cu. ft. storage tank with by-pass piping and mechanical float control to assure two hours' supply for boilers. From desalting heater, boiler feed drops by gravity to pumps, one of which is a 400 g.p.m. Terry steam-driven turbine, and pumped through a closed heat exchanger to auxiliary and recovery boilers. The closed heater utilizes 140 lbs. p.s.i. steam. Sodium metaphosphate to control scaling is added.

Miscellaneous

Power is generated from high pressure steam by a 2,900 K.W. Westinghouse condensing turbine and a 2,500 K.W. Westinghouse extracting and exhausting turbine. Extracted steam at 140 lbs. p.s.i. is used at digesters and a Foster Wheeler steam accumulator, with capacity of 14,000 lbs., is in parallel with the digester line to assure uniform operation of the turbine. Exhausted steam at 40 lbs. p.s.i. from the turbine and steam from accumulator provides process and heating steam.

A 36 in. wood salt water intake pipe, 220 ft. long, runs out from the salt water pump house located at the river's edge. Intake is about 6 ft. below low tide. A Link Belt vertical travelling water screen, capacity 15,000 g.p.m., located in the pump house removes large particles. Two Cameron 2,500 g.p.m. pumps supply water to fire mains. Two Cameron 3,500 g.p.m. pumps supply salt water for condensing at turbine, turbine pump, evaporator, and clean-up purposes.

The laboratory is divided into two main sections—an analytical lab for preparation of testing solutions and analysis of raw materials, water, and special testing, and lab for preparing and testing pulp, chips, bark, etc. A chemical storage room, office and charts room complete the laboratory. An instrument repair and storage room is adjacent to it.

A well equipped machine shop with wood-working, electrical, blacksmith and welding shops, has been provided.

An office with employees locker room below; a lunch room in the mill building, a staff house for 11 persons, and eight houses for staff are provided.

\$1,000,000 Plant Planned in Ohio

Plans to erect a new \$1,000,000 manufacturing plant in Lockland, Ohio, are announced by The Gardner Board and Carton Co. The new building will house the retail box department and will be on the north side of Cooper Ave., opposite the company's Lockland carton plant.

The plant will be a one-story building constructed of reinforced concrete and steel faced with brick. It will have 100,000 square feet of floor area.

Colin Gardner III, manager of operations, also announced that the company planned to spend another \$500,000 in 1950 at its Lockland operation in a machine room building addition, new equipment and improvements.

WHAT EUROPE NEEDS

FIBER SOURCES—U. S. INVESTMENTS

**Emphasis Now on Machinery
For European Pulp-Paper Aid**

By Joseph E. Atchison

Chief, Pulp-Paper Section, Forest Products Branch, ECA

As the Marshall Plan nears the half-way mark emphasis is switching from allocations for purchase of raw materials to allocations for purchase of capital goods, according to J. E. Atchison (right) chief of the pulpwood paper section, E.C.A. "But we do not intend to finance equipment for any plant which must depend upon tariffs and trade restrictions," said Mr. Atchison.



In Western Europe, the industry is capable of turning out about 6 million tons of pulp and over 8 million tons of paper and paperboard, with a total value of over \$2 billion annually. It employs over 400,000 workers. If the entire physical plant were to be replaced at current prices, it would be estimated to cost over \$3 billion.

The investment program for 1948 amounted to only \$37,000,000. Of this, about \$2,000,000 in equipment was purchased in the U.S. During fiscal year 1949/50 investment of about \$75,000,000 is expected of which \$12,000,000 will be spent in the U.S. The investment program for 1950/51 will be greater than the present rate. To meet needs, he said \$150,000,000 a year is needed.

If the present low rate of paper consumption in Europe is to be increased by even ten pounds per capita, additional sources of fibrous raw materials must be found and exploited, and investment capital far beyond that available in Europe must be found.

This problem of investment is a very serious one in Europe. There is so very little capital available for new investment yet there is such a great need for it.

All over Europe I saw tremendous opportunities for investment in the pulp and paper industry. In fact, as I traveled

through Europe I could not help but think of what wonderful opportunities there were for investment of private American capital and American know-how.

Consumption 56 lbs. per Person

At the present time annual consumption of paper in Europe varies greatly, being as low as 5 lbs. per capita in Greece and as high as 130 lbs. per capita in Sweden, the average for Europe being 56 lbs. per capita. This is in contrast to 360 lbs. per capita consumed in the U.S. Furthermore, total consumption of paper and paperboard in the U.S. increased by 94% between 1938 and 1948 whereas the consumption in Europe is still below prewar levels. The Europeans hope to raise consumption from 56 lbs. per capita per year at present to 66 lbs. by 1952. Even this small increase of 10 lbs. each for 270,000,000 people would require an increase of 1,350,000 tons.

In view of this anticipated increase in consumption in Europe it is difficult to see how the increases in exports to the U.S. could be more than a mere trickle.

In prospect for the future are two completely integrated kraft pulp and paper mills. One of these is projected in Portugal and one in Austria, each 100 tons per day. A considerable amount of equipment will be purchased in the U.S. Portugal and Austria are two of the very few countries in Western Europe which have sufficient supplies of softwood to allow additional pulp expansion.

Use of Hardwoods

Italy has been the leader in Europe in the use of hardwoods. Almost all mechanical pulp produced in Italy is made from poplar, and practically all their newsprint is made with this poplar groundwood. For 20 years, Italy has been cultivating poplar as a crop. I also saw excellent quality dissolved pulp being produced from beech in Italy. In other countries, the use of hardwoods has not reached nearly so high a state of development as in the U.S.

One of the most important ECA projects financed to date involved \$950,000 for stock preparation equipment and a new Fourdrinier machine for glassine and other grades of paper from bleached straw pulp in Italy. It will introduce the first really modern paper machine into Southern Italy.

Another project involved \$1,650,000 for the first modern high speed newsprint machine in Italy. It is to have a top speed of 1300 feet per minute as compared to present top speeds of 600 feet per minute. The company, Cartiere Burgo, expects to use poplar groundwood pulp with poplar semichemical pulp, producing 30,000 tons a year.

"I saw on the drawing boards many new plans for construction of bleached straw pulp mills all over Western Europe," said Mr. Atchison. "In England, I saw a pilot plant producing continuously two tons of bleached straw pulp per day for use in an adjoining fine paper mill. Italy uses it for newsprint and other grades and Germany for fine papers."

The Marshall Plan Record

Since April 1, 1948, \$94,500,000 has been allocated for the purchase of pulp and paper in the U. S. and Canada, as follows:

Woodpulp for paper	\$40,200,000 or 42.7%
Dissolving pulp	\$23,800,000 or 25.8%
Newsprint	\$19,400,000 or 20.5%

Other paper and paperboard— (mainly specialties)	\$11,000,000 or 11.6%
---	-----------------------

OLIN-ECUSTA TO USE WOOD PULP

See page 21 for editorial comment on the government suit against DuPont. Also see page 24 for changes in Olin-Ecusta management staff.

The 8-machine, 33 million lbs. per year cellophane plant being built by Olin Industries on the grounds of, and adjacent to, Ecusta Paper Corp., Pisgah Forest, N. C., will use an alpha cellulose pulp, rayon grade, for its raw material and not flax.

On Nov. 25 last, Olin took over Ecusta and in the first reports in this magazine it was stated reliably that wood pulp—not the flax used by Ecusta for cigaret and Bible papers—would be the cellophane plant's raw material. This has now been confirmed and wood cellulose, which could be either kraft or sulfite, is the preferred material over cotton linters, also, for this process.

Except experimentally or for only brief periods, kraft rayon has never been made on this continent, but the new International Paper Co. plant being soon completed at Natchez, Miss., is designed to make alpha cellulose pulp, rayon grade, by kraft process using hardwoods. However, it may also make paper grades, should there be any reason, technical or market-wise, to abandon the attempt to make rayon grade pulp; or it might divide or alternate products.

The licensing of Olin to make cellophane was the result of "monopoly" suit by the U. S. government against DuPont, which for a long time had held up ex-

pansion in this field, and thereby indirectly was responsible for restriction on the market for the U. S. dissolving pulp industry.

Years ago a suit resulted in Du Pont losing cellophane as its exclusive trademark for cellulose film. The fact that the word had become generic, that is, had become part of the language, was the determining factor in the court decision.

Another legal chapter yet to be concluded is the Department of Justice suit against E. I. du Pont de Nemours & Co., charging it with monopolizing the cellophane business.

Du Pont denies this, and says the field is wide open. American viscose, as a matter of fact, makes cellophane, at its Sylvaania subsidiary.

The outlook for cellophane was sufficiently bright to cause Du Pont to make plans to expand. Producers expected the market to expand by 20% over the next few years. In view of the anti-trust suit, however, it was thought unwise for the Du Pont company to increase its investment in the cellophane industry and expansion was delayed until it recently licensed the Olin Industries to build a plant.

KEITH ROBERTS, formerly staff member of a daily newspaper and radio station, has joined the Nekooosa-Edwards Paper Co.'s department of personnel administration. He has been assigned to safety promotion and employee relations.

MACHINE TENDER Munchausen Stories

Stanley A. Wilkes (right), one of six brothers in this industry, including a manager (himself) and two superintendents, has scored for the second time in supplying us with a story for this column. You may recall his first one, published last September, told how a mule-driven paper machine had a tramp machine tender befuddled.



This Mr. Wilkes is mill manager of the Atenquique kraft mill in Jalisco, Mexico. He previously worked in Wisconsin, Oregon and Vermont and for 15 years in Southern kraft mills. He has five brothers in mills—Felix, superintendent in Michigan; Walter, superintendent in a Florida mill; Edward, in Wisconsin; Jack in Michigan and Robert in Florida.

Here's His Story: The Flywheel and The Machine Tender

In an old mill up in Ohio, back during the days when papermaking was a more leisurely, though painstaking, process a machine tender decided to take advantage of a nice, balmy, spring afternoon by taking just a little cat nap on a table near the machine. He had just dozed off—when suddenly a commotion of earthquake proportions roared through the still afternoon. While the terrified machine tender thrashed air like water trying to get off the table in a hurry, the flywheel on an old-fashioned steam engine sheared off and started to roll thunderously down the machine room floor. It headed right for the machine tender's table and sheared it in two, all while the poor man was landing on his feet and racing for the door.

Then the machine tender turned and ran like mad the whole length of the building, not slackening his speed until he was clear at the other end where he fell against the wall and started to mop his wet and worried brow. But just as he did this, a desperate light came into his

eyes; he let out a whoop and tore off again, this time right through the town, because coming out of the wall right behind him was the same flywheel still going at a high speed.

Meanwhile people were pouring out of all the stores in town to see what the noise was all about and they were standing up and down each side of the main street when the machine tender went lickety-split right between them with the flywheel rolling right along behind him. The folks in that town say that machine tender is running yet, though the last they

saw of him for sure was on the far horizon. The flywheel stopped a half mile away, when it ran into a ditch and turned over.

But there are some folks who still say that whenever a machine tender slows down on the job in that particular mill the flywheel is just as like as not to take off after him.

Our Apologies to Mosinee; That's Where 1,000 FPM Was Hit

One of our good readers called attention to an apparent error, and since he is an authority we accept it.

Frank W. Monaghan, who died in retirement in Oregon during early 1949, had the distinction of starting up and operating the first paper machine to run 1,000 f.p.m. This was at Mosinee, Wis., at what is now Mosinee Paper Mills Co., where Mr. Monaghan was superintendent at that time (we had the man—but the wrong mill).

COMING INDUSTRY MEETINGS

National

- Nat'l Packaging Exposition—Navy Pier, Chicago..... April 24-27
- Technical Committees, Pkg. Institute—Furniture Mart, Chicago..... April 25
- Joint U. S.-Canada Fundamental Research Conf.—Chateau Frontenac, Que..... May 29-30
- Supts' Ass'n (Nat'l Meeting) — Edgewater Beach Hotel, Chicago..... June 8-10
- Paper & Twine Ass'n. (Annual Meeting) — French Lick Springs Hotel, French Lick Springs, Ind..... June 16-17
- Forest Products Research Society—Portland, Ore. (Annual Meeting)..... June 25-29
- Forest Products Research Industry Show, Armory, Portland..... June 26-30
- Envelope Mfrs. Ass'n. — Greenbrier Hotel, White Sulphur Springs, W. Va..... July 10-11
- Educational Graphic Arts Exposition—Chicago..... Sept. 11-23
- Engineering Conference — Netherland-Plaza Hotel, Cincinnati..... Oct. 2-5

Regional

- Kalamazoo Valley Tech. Section—Mich. Div. Supts. Joint Meeting—Harris Hotel, Kalamazoo..... April 6

- Pacific Coast Tech. Section—Camas, Wash..... April 7
- Lake States Tech. Section—American Legion Club House, Appleton, Wis..... April 11
- Ohio Tech. Section—Manchester Hotel, Middleton, O..... April 13
- Northern New York Tech. Section—Woodruff Hotel, Watertown, N. Y..... April 13
- Delaware Valley Tech. Section—Engineers Club, Philadelphia..... April 27
- Lake States Technical Committee, Amer. Pulpwood Assoc.—King's Gateway, Land O' Lakes, Mich..... May 3
- Western New York Tech. Section—Prospect House, Niagara Falls, N. Y. C..... May 10
- Pac. Coast Supts.—Wstn Branch, Cana. Tech. Section—Pac. Coast Tappi (Joint Convention)—New Washington Hotel, Seattle..... May 11-13
- Canadian Tech. Section—Chateau Frontenac, Que..... May 31-June 2
- New England—Maine—New Hampshire Tech. Section (Joint Meeting) — Wentworth - by - the - Sea, Portsmouth, N. H..... June 22-24
- Northwest Supts.—Schroeder Hotel, Milwaukee, Wis..... Sept. 15-16
- Paper Industry Salesmen—Midston House, New York City—Every Monday, 12 noon to 2 p.m.

ROBERT AND COMPANY ASSOCIATES

96 POPLAR STREET • ATLANTA, GEORGIA

Consulting and Design Engineers to the
PAPER AND CHEMICAL INDUSTRIES

HAROLD R. MURDOCK, Chemical Engineer

PROCESS STUDIES • DESIGN • POWER PLANTS • INDUSTRIAL WASTE DISPOSAL



News About Industry "Affiliates" The Equipment and Supply Men

EARL H. CONE, JR., has been named sales manager for the newly combined Industrial Chemicals Dairy Products Divisions of Hercules Powder Co.'s Paper Makers Chemical Department. **DON C. NICHOLSON** has been named assistant sales manager of the combined divisions. Mr. Cone, a graduate of Georgia Tech, joined Hercules in 1937. For the past two years he has been manager of Dairy Products Division. Mr. Nicholson, graduate of Colgate College, has been assistant manager of Dairy Products Division.

WILLIAM E. BUCHANAN, president of Appleton Wire Works, Appleton, Wis., was host recently to a reunion at his home of Dartmouth alumni of the vicinity.

C-E Shifts Personnel

Recent changes in personnel by Combustion Engineering-Superheater, Inc., have moved Arthur Hunter, formerly assistant manager of the Philadelphia office, to New York as an assistant general sales manager. Robert L. Riker, formerly manager of the proposition dept., N. Y., also has become an assistant general sales manager. G. P. Ellis, previously western manager, is now manager of the Washington, D. C., office, and T. J. McGowan has been transferred from Washington, D. C., to Philadelphia.

MRS. DOROTHY FARR, principal secretary at the Pacific Coast Supply Co., in Portland, Ore., and well known to many in the industry, was ill in mid-March and under hospital care.

RONALD BENSON, former technical director at the Crown Zellerbach mill in Carthage, N. Y., and more recently in charge of technical sales for Carl Miller Chemical Co., has opened his own offices in Seattle under the title Ronald Benson, Inc., industrial chemicals.

Shifts in Key Positions In Pacific Coast Supply Co.

R. W. Keller, who has been calling on mills in California in behalf of Pacific Coast Supply Co., has been appointed resident manager in charge of the San Francisco office of the company, according to John M. Fulton, manager, Pacific Coast Supply Co., Portland, Ore. New offices in San Francisco are in the Newhall Bldg., 260 California St.

S. S. Philbrick, Jr., who had worked with Mr. Keller, has left the company to accept a position in market research with Crown Zellerbach Corp. The vacancy is being filled by H. J. Bolger, who was with Pacific Coast Supply for many years in San Francisco but who left for a time to represent F. C. Huyck & Sons in the Middle West.

Bingham Engineer

Appointment of **James T. Rayner** (right) as factory sales engineer for the Bingham Pump Co., Portland, Ore., has been announced by the company's president, R. V. Bingham. Mr. Rayner, who has been with the Bingham Sales office in New York, will assist in servicing industrial customers in the Portland territory. The addition of Mr. Rayner is part of a major expansion of the company. A mechanical engineering graduate of the College of the City of New York, Mr. Rayner served in the European war theater as an Engineer Corp. lieutenant with a combat battalion, supervising road and bridge building, assault river crossings, etc.



Rice Barton Moves Fast



To give you an idea of how fast the paper machinery industry must move these days we publish some evidence herewith. The plane shown in the picture was purchased by Rice Barton Corp., Worcester, Mass., and getting aboard is Charles Sumner Barton, vice president and general manager. The pilot, shown here at the controls, is Henry Knowlton. The plane is used for calls to many mills. They didn't figure on this kind of selling back in 1837 when the company was founded.

STEPHEN GOERL of Stephen Goerl Associates, New York, recently became a part of that statistic which proves what percentage of all accidents occur right in your own home. He said only that his predicament involved a slippery floor and a dislocation. The fact that it kept him from "Paper Week" would indicate a temporarily serious affair, for among his accounts are several important pulp, paper, and equipment companies.

BILL CLINES, General Chemical's representative in Seattle and the president of the Seattle Waiting Room of the Migratory Peddlers, won his way recently to finals of the Pacific Coast Veteran's Class Squash Racquets championship, where he finally was beaten by a medico.

HARRY ELDRIDGE, vice president of F. C. Huyck & Sons, has announced the election of **HERBERT J. KNEIP** as director. The latter is president of the National Commerce Bank and Trust Company of Albany, N. Y., and reached his present position from bank messenger after graduation from Albany High School. A director of several other companies, he is widely known in civic and community affairs and as vice president of the New York State Bankers group.

JAMES DUNBAR, inventor of the Dunbar screens and other equipment widely used in pulp mills, is recuperating in Vancouver, B. C., after a serious illness. He is a partner in Columbia Mill Development Co.

JOHN MOTTISHAW, chief forester, Bloedel,

JUAN P. BOSCH joined Butler Co., Butler American Paper Div., New York, effective March 15 in a promotional capacity for sales in export markets. He was formerly with Bulkley Dunton Paper Co., S. A.

Tom Toovey Joins Sherbrooke



The Sherbrooke Machineries, Ltd., Sherbrooke, Quebec, has announced appointment of **T. W. Toovey** (left), as development engineer, according to word received by **PULP & PAPER** from M. W. Davis, president of the company, recently.

Mr. Toovey has been with Whitemarsh Research Laboratories of Pennsylvania Salt Mfg. Co. where he was pulp and paper technologist, investigating bleaching processes, and applications of new chemicals in the pulp and paper field.

Previously Mr. Toovey served as research chemist and technical consultant for Harmanetzer Papierfabrik, Harmanec, Czechoslovakia. He was with Dr. Emil Heuser at Canadian International Paper Co., and had been with British Columbia mills.

PAUL H. PRENTISS of 1608 Courtland Avenue, Park Ridge, Ill., formerly with American Maize Products of New York, will work in Chicago and the Mississippi Valley as a special sales representative of A. E. Staley Manufacturing Co., Decatur, Ill., which markets a complete line of industrial products made from corn and soybeans.

H. B. WRIGHT became manager of Swift & Company's adhesive products department at North Portland, Ore., March 13, filling a vacancy occurring with transfer of H. B. Hunt to Kansas City, Mo., to manage that adhesive products department of Swift & Company. Mr. Wright moved from the company's San Francisco division.

JOE SCHEUERMANN announced here last month as retiring from Cameron Machine Co., Brooklyn, appeared anything but retired at the annual "Paper Week" Tappi convention. A fixture there after 26 such conventions, Mr. Scheuermann plans to continue in that role as later it was revealed he has joined Bagley & Sewall Co., where his old friend, Allan Hyer is sales manager.

S. A. "SAM" SALMONSON, West Coast Representative of Chemipulp Processes and well known sulfite expert, has moved from his home at Lincoln Beach on the Oregon Coast to Portland, Ore. Golfers attending future Portland meetings should look to their laurels as Sam's front yard is the Rose City golf course.

Hooker Co. Changes

Hooker Electrochemical Co., announces management changes at Niagara Falls, N. Y.:

Hiram B. Young, formerly superintendent, was made works manager. Frank W. Dennis, formerly personnel director and employment manager, was named director of industrial relations for plants at Niagara Falls, N. Y., Tacoma, Wash., and Ashtabula, O. Leonard F. Bryant, formerly assistant production superintendent, is now Niagara Falls superintendent, and Walton B. Scott, formerly assistant technical superintendent is now technical superintendent there.



They Want to Spread More Knowledge of Forest Industry Facts



INDUSTRY LEADERS WHO BELIEVE that lawmakers and heads of other industries in their region should know something about pulp and paper, lunch together annually in New York in late February during "Paper Week." Prominent lumber people join in for this Forest Industries Information affair. Starting at the end (left) of the U-shaped table and proceeding around the outside are: George M. Fuller, National Lumber Manufacturers Association; R. A. Colgan, Jr., executive vice president of NLMA; G. D. Cook, secretary-treasurer, Specialty Paper and Board Affiliates; W. C. Hammerle, Southern Pine Association; A. B. Recknagel, St. Regis Paper Co.; Stuart Moir, Western Forestry and Conservation; Fred Morrell, Washington representative for APPA; Clyde Martin, Weyerhaeuser Timber; M. H. Collett, West Virginia Pulp and Paper; C. Everett, Marathon Corp.; Howard Mendenhall, Brandywine Valley Association; E. W. Tinker, APPA; W. O. White, Curtis Paper Co.; John B. MacAfee, of the committee; D. J. Hardenbrook, Union Bag & Paper; Cola G. Parker, retiring

President of APPA, president of Kimberly-Clark; D. K. Brown, Neenah Paper; Charles H. Sage, Kimberly-Clark; James L. Ritchie, U. S. Pulp Producers; C. A. Beck, West Virginia Pulp & Paper; Paul Koenig, P. H. Glatfelter; Robert Canfield, Groundwood Paper Association; Henry Bahr, NLMA.

Beginning at right and following around inside of U-shaped table are: Thomas Farwell, Ryegate Paper; W. W. Corlett, of Wise, Corlett and Canfield; R. S. Kellogg, Newsprint Service Bureau; S. B. Copeland, Northwest Paper; W. J. Damtoft, Champion Paper and Fiber; G. W. E. Nicholson, Union Bag & Paper; Vertreus Young, Gaylord Container.

Reading from back to front on the left inside: Luther Griffith, Griffith Lumber; W. D. Harrigan, Scotch Lumber Co.; Eric G. Lagerloef, Blotting Paper Association; George Boyd, Jr., Wise, Corlett and Canfield; Darnell Avery, Kraft Paper group; Henry C. Waldo, Marcalus Manufacturing Co.; and Harold S. Crosby, Northern Hemlock and Hardwood Manufacturers.

Wortham Elected President, Keener Becomes "Veep"



RICHARD W. WORTHAM, Jr. (left), Southland Paper Mills, elected President, Southern Pulpwood Conservation Ass'n; and J. H. KEENER (right), of Champion Paper & Fibre Co., elected Vice President and Director for Area No. 4.

FORESTRY IMPORTANT TOPIC DURING PAPER WEEK

The pulpwood industry at New York's Waldorf Paper Week was active in two studies, "Status of Forestry in the Pulpwood Industry" and "Effect of Legislation on Private Forest Activities and Logging Practices" under the auspices of the American Pulpwood Association managed by H. E. Brinckerhoff. During the annual convention APPA is sometimes confused with the Forest Industries Information Committee of APPA. (There is some exchange of attendance, naturally).

Don Denman, vice president of Crown Zellerbach Corp., Seattle, Wash., substituted for E. P. Stamm, logging manager of Crown, who could not be present, and read his paper on the status of forestry. There was serious discussion on it via a panel comprised of: George Amidon, forest management office, M & O Paper; D.

B. Demeritt, Dead River Co.; D. E. Hess, Gladtfelter Wood Pulp Co.; F. C. Gragg, division forester, International Paper. The afternoon program featured a paper on legislative effects by M. H. Collett, assistant to the vice-president, West Virginia Paper; *A Private Industry Program in Selling Forestry to the Workers*, by C. S. Herr, resident woods manager, Brown Co.; *States' Participation in Forestry Programs* by A. D. Nutting, Maine Forest Service; *Rational Approach to Forest Practices on Private Lands* by Col. W. B. Greeley, vice-president of West Coast Lumberman's Association; *Pulpwood Publicity Plans for 1950* by Edwin R. Butler, Forest Products Industry. Never until now had there been quite so much attention on forestry at the APPA convention, the culmination of an old determined plan of Ted Tinker's.

Richard W. Wortham, Jr., executive vice president of Southland Paper Mills, Lufkin, Texas, was elected president of the Southern Pulpwood Conservation Association for the new year. He succeeds E. J. Gayner III, vice president and general manager of Brunswick Pulp & Paper Co., Brunswick, Ga. Mr. Gayner was elected director at large. Mr. Wortham also serves as a director for Area No. 1.

J. H. Keener, of Champion Paper & Fibre Co., Canton, N. C., was elected vice president, and also director for Area No. 4.

Directors elected for various areas, in addition to the above included:

Area No. 1: Earl Porter, International Paper Co., Mobile, and C. Y. Townley, Champion Paper & Fibre Co., Huntsville, Texas.

Area No. 2: Vertreus Young, Gaylord Container Co., Bogalusa, La.; R. V. Miles, Jr., Gulf States Paper Corp., Tuscaloosa, Ala.; L. D. Hall, International Paper Co., Panama City, Fla.

Area No. 3: T. T. Dunn, Union Bag & Paper Corp., Savannah, Ga.; N. R. Harding, Macon Kraft Co., Macon, Ga.; S. K. Hudson, Container Corp. of America, Fernandina, Fla.

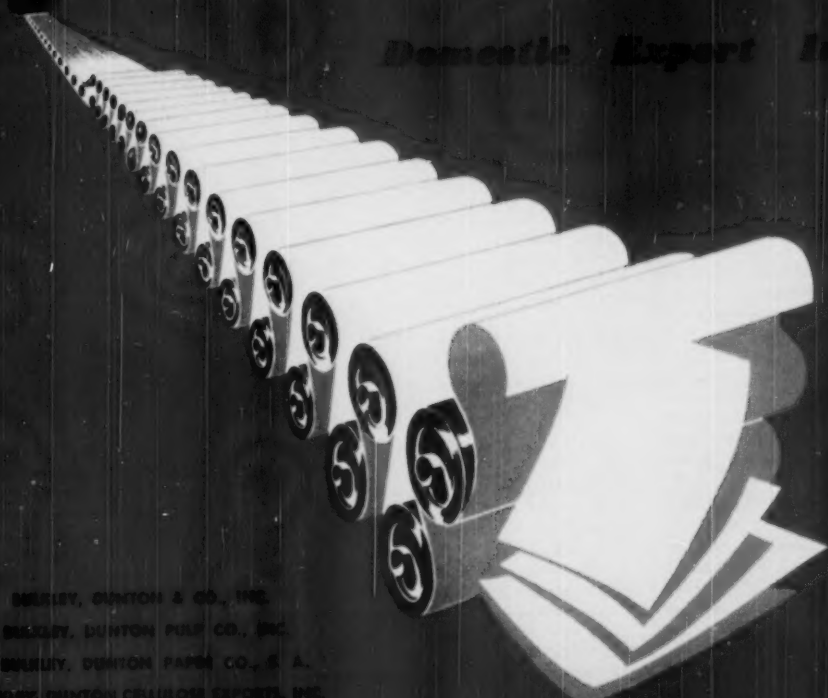
Area No. 4: R. C. Barinbrock, The Mead Corp., Kingsport, Tenn.; A. L. Wenrich, Container Corp., Hopewell, Va.

Office and representatives
in 60 cities in the United States,
Europe, Latin America, Africa, and Asia



WOOD PULP PAPER

Domestic Export Import



BULKLEY, DUNTON & CO., INC.
BULKLEY, DUNTON PULP CO., INC.
BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC.
BULKLEY, DUNTON PAPER (EAST ASIA) CO., INC.
In New England —
CARTER, BICE & CO. CORPORATION

BULKLEY-DUNTON
ORGANIZATION
295 MADISON AVENUE, NEW YORK 17, N. Y.



ATLANTA PULPWOOD MEETING

Facts and Figures—Results and Costs

With more than 225 registrations setting a high mark in attendance, the annual meeting of the Southern Pulpwood Conservation Association in Atlanta on Feb. 15 proved not only successful from the standard of size but also of program interest.

E. J. Gayner, 3rd, vice president and manager, Brunswick Pulp & Paper Co., as retiring president of the group, pointed to the uniqueness of the association—an organization financed by industry to protect and develop natural resources owned by others. The target now, he said, is to get the "little fellow," owner of 50 to 500 acres of forest land, to do a better conservation job.

Henry Malabarger, association general manager, emphasized that 78% of wood used by association members comes from cutting practices providing for future growth. During the year past 8% more of mill takings came from thinnings than during the previous period. Seed tree cuttings yielded 2% more volume. Against the increase in good practice, undesirable practice reductions were 6% less from land clearings and 3% less from clear cutting.

Need for banking resources for the small tree grower was stressed, as also the increased utilization of forester service in stand management rather than just harvesting time advice for small owners. The association embraces 25 companies (32 mills) representing 80% of Southern pulpwood consumption. Its program during the past year cost the pulpwood industry approximately a half-million dollars.

Increased costs of forest fire control amounting to 54% from 1945 to 1950 come from tremendous increases in salaries, wages and equipment costs, declared W. K. Beichler, North Carolina State Forester, who compared the 7.2 cents per acre in 1945 against 11.1 cents for the recently completed estimates in his state. The forester suggested the desirability of



PARTICIPANTS IN SOUTHERN PULPWOOD MEET (L. to R.): VANCE MILES, Gulf States Paper Corp., Area Director and panel discussion member; CHARLES EVANS, Ass't Southern Regional Forester, recently elected President of Society of American Foresters; TED EARLE, Woodlands Manager, Southern Paperboard Corp., an association past president; F. R. CONNER, Ass't to Wood Procurement Manager, Rayonier, Inc.; JAMES GRAHAM, West Virginia Pulp & Paper Co., Procurement Manager; EARL PORTER, International Paper Co., elected Director for Area No. 1; BOB HOSKINS, Industrial Forester, Seaboard Air Line RR., Chairman, Forester Committee, U. S. Junior Chamber of Commerce; and E. J. GAYNER, III, Brunswick Pulp & Paper, retiring President of the Association, who was elected Director at Large.

a tie-in between rural fire protection and forest fire control in Southern states along the lines of the California plan.

Discussion of a research project by the Southern Forest Experiment Station to develop guides to profitable forest management was presented by William A. Duerr, division forest economics chief. The results of such a study would be a readily applicable set of rules for determination of which market the tree or its parts should be channeled to.

Gaylord Container Reports Costs

The current policy of Gaylord Container Corp., is to cut larger diameters and better quality trees into piling, poles, saw logs and veneer logs, declared J. Harold Foil, speaking of the company's large forest holdings. However, the mill is being equipped to use pulpwood up to 20 inches diameter without splitting as insurance against lack of outside wood or too high prices.

Quoting results and costs from the commercial pine plantations at Bogalusa, Mr. Foil showed a volume of 37.7 cords per acre with a cost of 48.3 cents per cord on one area. This was on 6500 acres planted with slash pine nursery stock in

1925-6. The total growth in 24 years was 37.7 cords per acre. Thinning by removal of 10 cords per acre is now being effected. Trees average 9-inch to 10-inch.

Cost of growing this stand was given as follows per acre: planting costs, \$4.00; simple interest at 5% on \$7.00 acre, \$8.40; fire protection and maintenance averaging 12 cents per acre year, \$2.88; taxes, 35 mills on \$3.50 basis for 24 years, \$2.93. Total cost, \$18.21 applied to 37.7 cords yields 48.3 cents per cord.

Current planting costs are estimated at \$8.00 to \$9.00 per acre including \$2.50 per M for seedlings, or \$2.25 for this expense. The costs do not include fencing, new road construction or general forestry supervision.

W. J. Barker provided an interesting survey of the South Carolina extension service work performed by Clemson College. There has been a marked improvement during the past two years from the timber owners' standpoint in that they are no longer willing to have a clean sweep made of their stands, declared A. W. Pitts, Pittsview, Ala., dealer. The speaker thought 60% of wood from his area is "salvage" yield.

A panel discussion was participated in by Vance Miles, Gulf States Paper Corp., J. E. McCaffrey, International Paper, Ken S. Trowbridge, N. C. Pulp Co., J. H. Johnson, Chesapeake Corp., and R. W. Wortham, Jr., Southland Paper Mills.

New President's Address

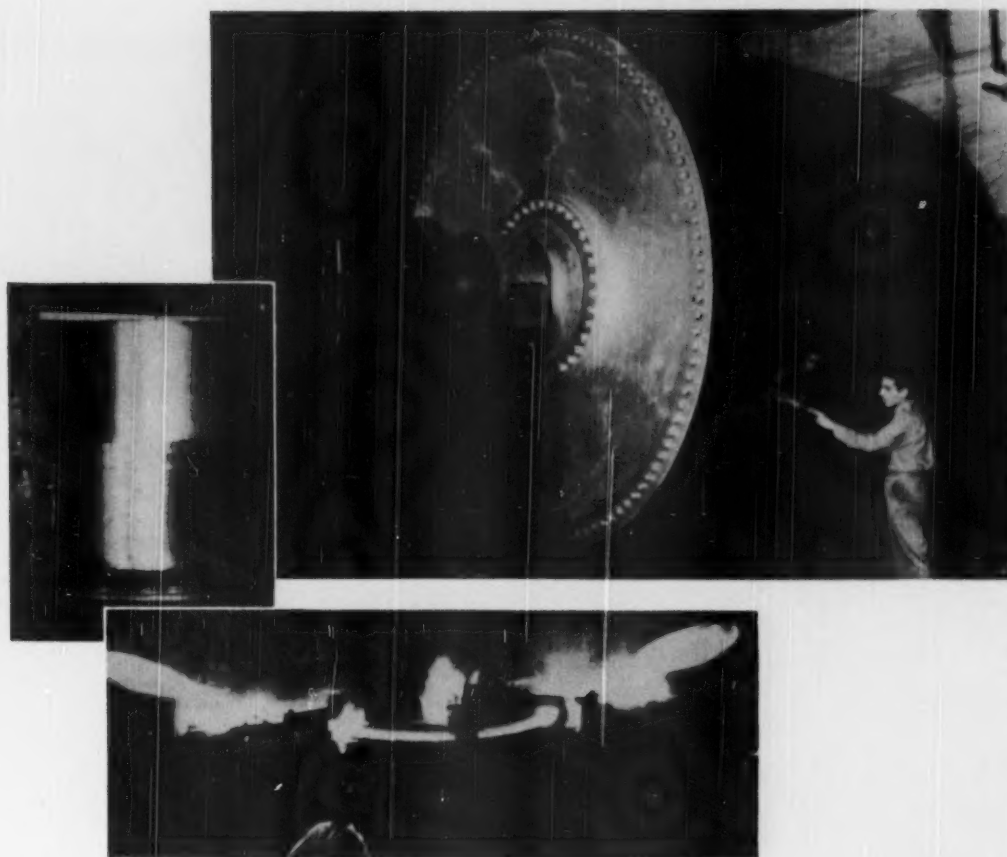
Speaking "as I see it," the new association president, Dick Wortham decried the "appalling amount of poorly stocked or completely denuded pine acres and constant encroachment of low-grade, worthless hardwood in the South. His platform to improve the situation:

1. The association and mill members furnish free seedlings to small land-owners.
2. The association encourage large owners to lend planting machines or tools

(Continued on page 67)

ACTIVE AT SOUTHERN PULPWOOD MEETING were (L. to R.): KEN TROWBRIDGE, North Carolina Pulp Co., panel discussion member; W. K. BEICHLER, North Carolina State Forester, a program speaker; J. H. JOHNSON, Chesapeake Corp., panel discussion member; MIKE STALMUKE, International Paper; PAUL HENZLER, International Paper; J. HAROLD FOIL, Gaylord Container Corp., a program speaker; WILLIAM A. DUERR, Southern Forest Experiment Station, a speaker; and J. E. MCCAFFREY, International Paper (Georgetown) who spoke on program panel.





A REFLECTION OF QUALITY

The mirror like finish on this 12-foot Yankee dryer reflects the same quality built into more than 425 rolls at Newport News since the war's end. Twenty-six dryer rolls of the size shown have been cast and machined with a finish to meet the users' requirements.

The rugged performance record of the Newport News all welded log barker has proven the soundness of its sturdy one piece construction. Other Newport News papermaking equipment in use in leading mills includes head boxes, digesters and tanks. INQUIRIES ARE INVITED.

NEWPORT NEWS SHIPBUILDING & DRYDOCK CO.

NEWPORT NEWS, VIRGINIA

HOW SPRUCE FALLS DOES IT

Use of Sloops is a Distinctive Technique

Up in the Clay Belt country around Kapuskasing, Ontario, Spruce Falls Power & Paper Co. is logging "for keeps"—that is to say, operating on a basis that will insure perpetual forest growth. And in striving for this objective the company has introduced mechanization in the woods with gratifying results and its tree farm program is outstanding in Canada.

Spruce Falls Power & Paper Co., an affiliate of Kimberly-Clark has capacity to produce 700 tons of newsprint and 400 tons unbleached sulfite pulp daily.

Mechanization Summary

Thirty woods camps, all equipped with FM radio or telephone, were operated this past season, each with a maximum of 100 men. The camp buildings are of prefabricated panel construction. Equipment in all the camps has been pretty well standardized. Three camps have been mechanized in the sense that tractors, cables, swinging booms and supplementary mechanical equipment are used. So far as



SPRUCE FALLS POWER & PAPER CO. Woodlands Executives (L. to R.): G. W. PHIPPS, Woodlands Manager; WILLIAM THOM, Asst. Manager of Woodlands; W. H. BAILEY, Office Manager; H. C. WALKOM, Plant Supt.; F. N. WILEY, Forestry and Engineering Supt.; CORDNER WRIGHT, Industrial Relations Supt.

mechanization in the woods is concerned, Spruce Falls is feeling its way along and making adjustments gradually as conditions determine locally.

Bulldozers are used much more extensively than in former years. In some camps

4-ft. wood is simply cut and piled along one side of a picket line with no road cutting done by the cutter. A Caterpillar D7 dozer-equipped tractor follows along after frost conditions permit and clears the road for eventual truck passage direct to the stump, thus eliminating the intermediate forwarding process.

Some development work is now in progress in mechanizing camp kitchens. The utility of mechanical potato peelers, mixers, grinders, etc., is under observation.

In the felling operations not many power saws are used as the dense underbrush characteristic of the Clay Belt—mostly stubby cedar, tamarack and alder—is an impediment. Felling crews cut the trees, limb them and buck the wood to required lengths, leaving it in piles at an angle to the road so that the tractors can easily maneuver the sloops into position for loading.

How Sloops or Sled Are Used

Mechanization at Kapuskasing is distinctive in its employment of the "sloop" or sled as a key unit for the movement of pulpwood from the forest, where it is stacked after cutting, to the pulp mill.

The tractors, winches and hauling trucks



UPPER LEFT: GEORGE CARR, Pacific Car and Foundry Co.'s Eastern Sales Director (his headquarters in Chicago) on hand to observe "sloping" in Spruce Falls logging operations. His company manufactures the Carco winches used.

TOP CENTER AND RIGHT: Too much wood in this strip pile made it impossible to raise all logs to sloop bed. Rear hinge stakes would not lift to their normal vertical carrying position so part of the load had to drag. The extra road friction produced required operator to make about six winch pulls before arriving at a point where the tractor could pull the load by itself. The winch line was wrapped around sloop tongue and with tongue disconnected from the drawbar, the line was spooled out as tractor advanced. Tractor would then bury its tracks in ice and snow as load was winched in.

BOTTOM LEFT: Jammer slings raise load from sloop. Sloop pulls out, truck backs in and is loaded.

BOTTOM RIGHT: Sleigh and truck dump on river bank. Decking on river is being done with a mobile crane.

Bingham PUMPS

...PRECISION BUILT...FIELD PROVEN

Bingham Pulp-Hog A Stock Pump That Cannot Be Airbound

This special pump can be mounted on the side wall of Deckers, Washers, and Thickeners and take stock directly from the doctor blade without becoming air bound or clogged. The unique design of this pump enables the PULP-HOG to receive stock, separate out, and exhaust the entrained air and deliver stock at a constant rate into mill system—no flow interruption.

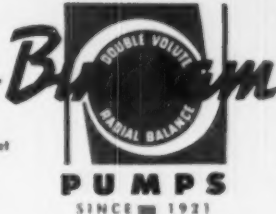
Bingham PULP-HOGS have been field proven by hundreds of installations in pulp and paper mills in the United States and Canada for pumping stock containing large volumes of entrained air.

An important factor in Bingham precision-built Single and Multi-Stage pumps is the static and dynamic balancing of all impellers and rotating parts. By means of Gisholt Dynetric balancing equipment, which is typical of the precision machinery in our new modern plant, all rotating parts are perfectly balanced—an important factor in the low maintenance and sustained high operating efficiency of Bingham Pumps.



**SEND
NOW**

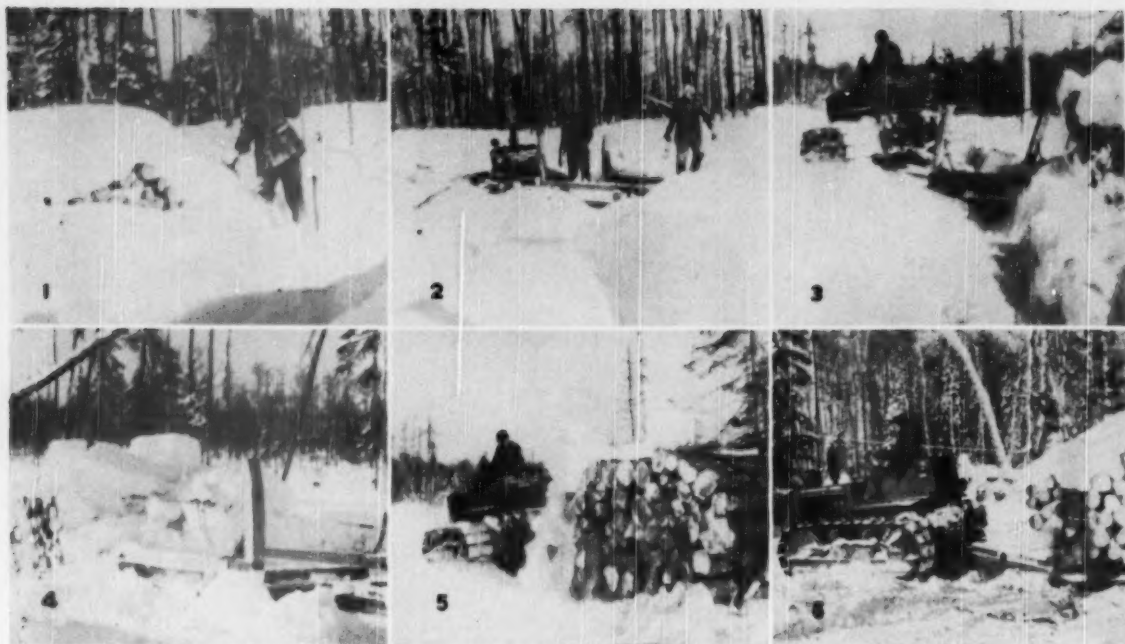
for Stuffingless Folder No. 107
Lists 12 important reasons why you
can profit by using Bingham Stuff-
ingless Pumps. Wire, write, or
phone the Bingham Sales and Ser-
vice office nearest you.



GENERAL OFFICES:
705 S.E. Main Street
Portland, Oregon

FACTORIES:
Portland, Oregon
Vancouver, Canada

Sales and Service Offices: BOSTON, MASS., 113 Broad Street • CHICAGO, ILL., 275 Old Colony Bldg., 407 South Dearborn Street • HOUSTON, TEX., 1204 Union National Bank Bldg. • MIDDLETOWN, OHIO, 505 Federal Savings & Loan Bldg. • NEW YORK CITY, N. Y., 611 Graybar Bldg., 420 Lexington Ave. • PITTSBURGH, PENN., 102 Mt. Lebanon Blvd. • SAN FRANCISCO, CALIF., 270 Fremont St. • SEATTLE, WASH., 316 Joseph Vance Bldg., 1402 Third Ave. • ST. LOUIS, MO., 6524 Clayton Road • ST. PAUL, MINN., 205 South Robert St. • TULSA, OKLA., 200-206 N. Denver St. • VANCOUVER, CANADA, 3550 E. Broadway



"SLOPING" AT SPRUCE FALLS LOGGING.

1. "SWAMPER" DIGS OUT around strip pile to clear the way for tractor-drawn "sloop."

2. SLOOP BACKS into position. Rear hinged stakes angle to base of pile to form a ramp. Carco "E" winch is in free-spooling and "swamper" is pulling out the mainline.

3. TWO CHAINS, one each hooked to the ends of the rear stakes, have been

passed under the load. The other ends of these chains are then hooked to the winchline over the pile and winched in.

4. WINCHING BREAKS up ice-bound logs—rolls the entire pile onto sloop bed and against the front stakes.

5. AS LOAD is pulled tight, rear hinge stakes come up to bind it against the front stakes.

6. ENROUTE TO LANDING. Tractor is an International TD9 equipped with a Carco "E" winch supplied by Pacific Car & Foundry Co. of Renton, Wash.

are the mechanized units. In the skidding operation, tractor-drawn sloops (a type of sled) are used for carrying the pulpwood, which has been cut in uniform lengths.

The crawler-tractors and winch equipment are the same as used in many logging operations, but in this case, these winches provide the means of loading the sloops. They enable the tractor operator and one swamper to load the piled pulpwood at the stump in one easy and fast operation. The sloops are designed and fabricated by the Spruce Falls company.

These observations of the Spruce Falls mechanization apply mainly to the tractor and slooping operations on the strip roads, from the loading of the pulpwood at the stump, the hauling to the junction of the main road and the lifting of the sloop load onto trucks—or sometimes sleighs—for the trip to the river landing.

The various phases of these tractor and winch sequences are shown in the accompanying pictures. It is a specialized operation which makes Spruce Falls logging noteworthy to all who are interested in winter logging. All the hauling is done during the winter.

The sloop is a flat bed of timbers with runners to give it sled-like action on the frozen and snow-covered muskeg. Long experimentation on the job has provided a runner that works the best. The sloop has load-holding stakes fore and aft. The rear stakes are on rugged hinges that fasten to the main frame. The rear stakes

are braced together to form a tail gate and loading ramp.

For speed and uniformity of loading operation on the sloops, the pulpwood is stacked in lots of about 1½ cords. Bolts are first placed on the ground to raise these pulpwood piles so chains can be passed underneath.

The tractors back the empty sloops up to the pulpwood piles so that the lowered tail gate is practically touching the end of stack.

One end of the loading chains is anchored to the top of the tail gate stakes. The free ends of the chains are passed under the pile lengthwise and back over the top where the payed-out winch cable is hooked to the chain-ends to form a halter.

Then the rugged logging winches, like Carco and Hyster makes, go into action. Sometimes the first strains are the hardest part of the pull because the frozen pile has to be "broken loose." It has already been prepared for the moving by the swamper who has scraped off the caked ice and snow.

As the winches continue to turn the bunched pulpwood rolls across the rear stakes, or loading ramp of the sloop and tumbles into a tight load on the sloop bed. Since the pull is continuous, the tail gate is finally drawn up into a vertical position that cradles the load which is secure for the haul down the strip road. At the junction with the main-haul road, the

sloop load is swung aboard the motor truck in one sling load.

If one could take a vantage position high above the Kapuskasing forests, as the writer did in a plane, he would see a comprehensive network of main haul roads leading from the river banks. And from these main roads, a well-planned series of laterals, or strip roads, that fan out to reach the corded wood.

Where the tractor and sloop are used, these strip roads can be longer than those for the camps that still use teams for drawing the sloops. This allows for a different pattern in laying-out the roads and an actual reduction in the miles of roads that must be built.

However, the length of the strip road for tractor hauling is limited to distances that have been proven by tests to be most economical. Spruce Falls men have found a strip road of about 20 chains best suited. A chain is approximately 64 feet, which makes the side roads about 1200 to 1500 feet long.

Spruce Falls hopes to increase tractor-winch production by increasing efficiency of crews (this, it is believed, can increase production 20%); by handling bigger payloads, and by decreasing the cost of preparation for sloop loading.

Description of Equipment Used

Spruce Falls uses Caterpillar and International Crawler tractors to haul these sloops, as well as for roadbuilding and

PULP **Quiz** PICTURE

HOW MANY OF THESE 6 PULPWOOD PROBLEMS CAN YOU SOLVE WITH A LORAIN?



STACKED WOOD?

A cable sling — a Lorain "TL" on crawlers — and this snow-covered yard has the solution to a wood stacking problem — picking them up and laying them down faster, higher and cheaper!



PILED WOOD?

Pulpwood grab on the end of a 75 ft. boom of a Lorain-820 and this pulp company has the time-saving, low-cost answer to transferring wood from block pile to mill conveyor.



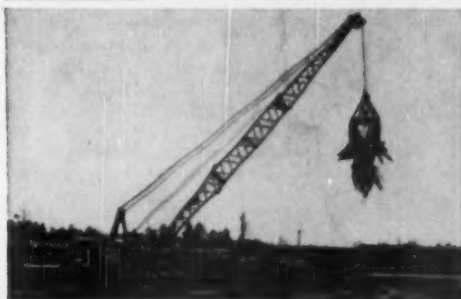
SHORT WOOD?

A Lorain-41 with a wood grab attachment moves about the yard of this paper maker and answers the need for a fast, highly maneuverable handler of 4 ft. wood.



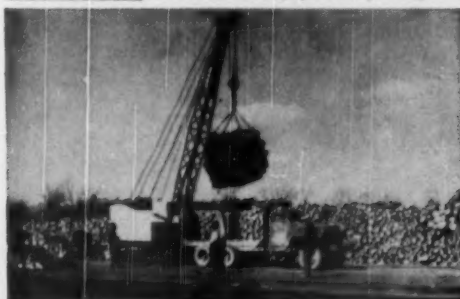
LONG WOOD?

This pulp company finds the answer to handling long wood in a Lorain-90 Crane used to build stockpiles. It doubled the number of saw logs previously stockpiled.



UNLOAD CARS?

A one-man unloading "crew" was this concern's answer to lower car unloading costs. A Lorain-820 with a pulpwod grab makes short work of picking pulp off cars.

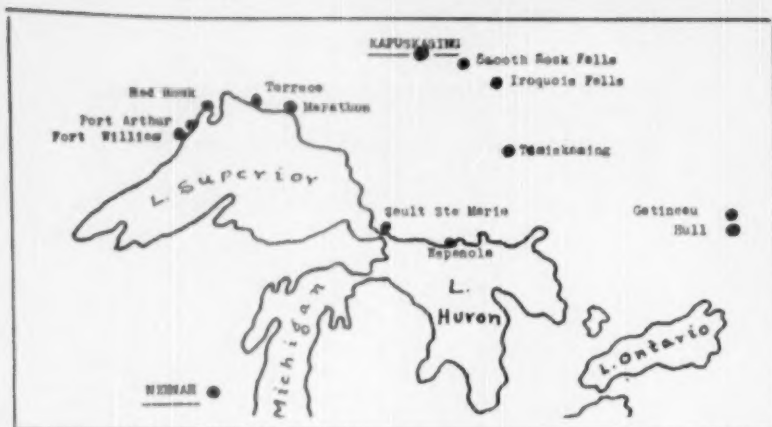


LOAD BARGES?

A Lorain "TL" with special 4-legged bridle unloads trucks to barges and cuts pulpwod handling cost 50%. A Lorain will save on every loading or unloading operation.

ANSWER: THERE'S A LORAIN FOR EVERY Pulp Handling Job!

THE **LORAIN**
CRANES FOR PULPWOOD HANDLING



stationary power for double-drum winch, or donkey work.

On the strip roads, the Caterpillar tractors are D-2 and D-4 models, having 32 and 43 drawbar horsepower ratings. These Caterpillars are equipped with Hyster towing winches.

The International tractors are TD-6 and TD-9 models, with 29 and 38 drawbar horsepower ratings. These are equipped with Pacific Car & Foundry Co. Model E Carco towing winches. Under the heaviest snow conditions of the season, the extra horsepower in the larger units, the D-4's and TD-9's, have proved valuable and at-times necessary.

Now in use are a pair of International TD-6's and 14 TD-9's, all Carco-equipped. In addition, for road building and general tractor uses, Spruce Falls has 11, TD-14 Internationals and one D-8 Caterpillar.

The trend in mechanization at Kapuskasing has become very significant, but out of the total annual yield from this show, perhaps but a fourth of the cut is brought out of the forests by the tractor-sloping method. The men responsible for these developments have had to progressively adapt and adjust this mechanization from the beginning in order to get the most out of it, for they have always had to reckon with the elements of the frozen north.

The first trials at hauling by sloop depended on horses for pulling and today the greatest part of the logged pulpwood is still hauled down the strip roads by teams.

By 1940 and 1941 the Spruce Falls people were conducting extensive tests in tractor-powered methods and practices. The results obtained have been very favorable on most counts and the use of tractors and winches has continued and the efficiency increased with experience.

On these strip roads the tractors average more than 44 cords per day over the snow to the transfer points. It seems reasonable that the tractors can each average the cordage hauled by three teams.

What might be termed a by-product economy has been the savings made in the number of miles of road construction in the camps that employ the tractor. This also means less maintenance work. Fewer roads have been needed because the tractors can use longer roads by covering the round trips so much faster than the teams.

At the transfer points where the strip roads meet the main roads, the Spruce Falls company has made good use of a "home-made" style of loader, or jammer. A wooden jammer is powered by an older model Caterpillar D-6, fitted with a Hyster D6N tractor donkey. The loaded sloops move into position and the load is hoisted in one sling-load. The tractor pulls the

sloop quickly away and the waiting motor truck backs under the sling and in the space of a few short minutes is ready for the trip down to the river dump.

At the river the pulpwood is dumped along the edges and must be distributed over the frozen ice in preparation for the coming of the spring thaws and the drives down the river. The logs reach the mills by river direct, or by river and rail, depending on the location.

Unloading is done in some instances by employing the slack skyline principle with "A" frames. Power is supplied by a double drum winch powered by a Chrysler engine and fluid coupling. Timberland Machines, Ltd., of Woodstock, Ont., supplied the machinery and accessories for this development. An adjustable "pusher" arrangement made by the Spruce Falls and adapted to a Caterpillar D4 tractor, is also used extensively to unload trucks and sleighs.

Some of the distributing of the logs across the frozen river is done with tractor winches cross hauling with a simulated drag line set-up.

The company also keeps a Link-Belt Speeder crane busy on this work throughout the hauling season.

The day of horse-loaded road water tanks for icing is gone, and in their place are gasoline pumps, either in conveniently located buildings at the water supply, or self-contained within the water tank which is hauled by truck or tractor.

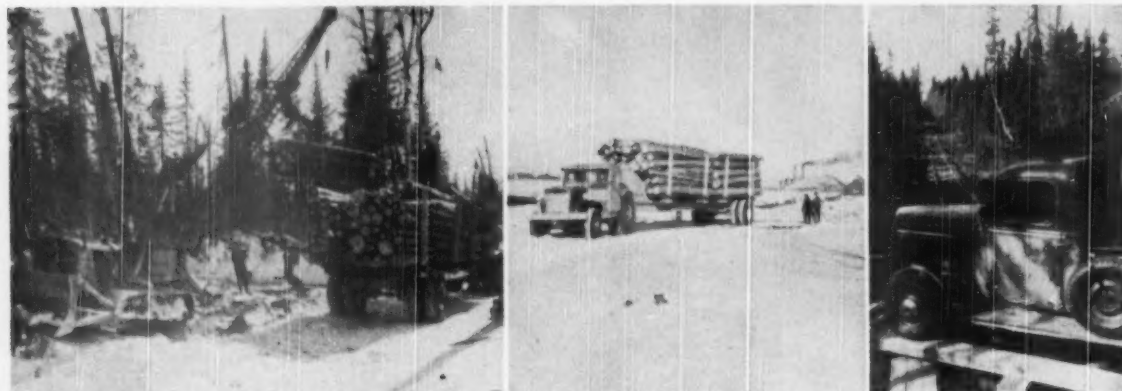
Another innovation is the introduction of detachable pneumatic tired trailers to replace sleighs under certain conditions.

In the other, more conventional camps most of the skidding is done with horses, although some experimenting has been done with cable skidding, the wood being piled at right angles to the direction of the road and the loading being done by dragline and crane with Blaw-Knox grapple. In this line of skidding, Northwest $\frac{3}{4}$ -yard cranes and Caterpillar D-7 Hystaway equipped with the grapples are used.

Ingenious Wooden Rails for Trucks

Most of the company's wood is harvested in swampy, muskeg country pitted with water holes, making it necessary to con-

LEFT AND CENTER: LOADING BLACK SPRUCE PULPWOOD at Spruce Falls logging with a 30-ft. boom Hystaway equipped D7 Caterpillar tractor. Caterpillar DW10 tractor pulls a 30-ft. King pulpwood trailer hauling 12 cords of 16-ft. logs over snow-packed roads from landing to mill. Right: Soft muskeg is traversed over supply road laid on logs. Note metal flanges to keep truck on wooden rails.



*Easy to Get Out
the "BIG ONES"*



Here's the easy, economical way to get out tree-length logs . . . an Oliver Crawler Tractor and Carco Winch and Sulky.

With this cost-cutting unit, you can haul more and bigger loads. The powerful winch enables you to snake out logs from inaccessible areas. The rubber-tired sulky materially increases the load that can be efficiently and economically carried since the load is carried with one end of the logs raised off the ground. The load-carrying ability of the tractor is increased by decreasing the load resistance.

Oliver Tractors and Carco Sulkies make possible far longer log hauls, thus reducing the amount of truck road needed. Remember, too, stresses and strains on the tractor are materially reduced, thus prolonging its operating life and reducing maintenance and operating costs.

For complete information on Oliver Tractors and Carco Winches and Sulkies, see your local Oliver Distributor.

THE OLIVER CORPORATION

Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio

A complete line of Industrial Wheel and Crawler Tractors



"THE SIGN OF
EXTRA SERVICE"



fine most of the transportation to periods when frost has hardened the surface. An ingenious system of wooden rails has been devised in some sections for the use of small Ford and Chevrolet trucks carrying supplies and personnel. This saves the cost of building gravel roads. The wooden rails are 5-in. by 5-in. timbers laid across a series of logs running sidewise which in turn are mounted on a bed of larger logs running lengthwise. The trucks run on rubber tires with steel flanges on the inside to hold them on the rails. The company uses 5-ton Plymouth gasoline locomotives on the Beaver Falls standard-gauge toting railroad.

WOODLANDS PERSONNEL

The Spruce Falls Power & Paper Co. woodlands division is headed by G. W. Phipps, with William Thom as assistant woods manager, both of whom have been with Spruce Falls for more than 20 years. Other officials of the woodlands division, all of whom have played their important role in making the overall program successful, include W. H. Bailey, woodlands office manager; H. C. Walkom, superintendent of forestry and engineering; F. N. Wiley, superintendent of plant; Cordner Wright, superintendent of industrial relations, and Edward Bonner, chief forester.

When operating at its peak the division employs about 2560 men.

THE CUTTING PROGRAM

The woodlands division of Spruce Falls Power & Paper Co. plans its cutting program in such a way that growth of the forest within the company's limits, embracing upwards of 6000 square miles, is not exceeded. The year's planning is based on thorough reconnaissance by aerial photography and ground surveys.

Black spruce is the species most suitable for the pulp mill's requirements and the Kapuskasing country has an abundance of it, with about 10% running to balsam and 15% to white spruce. The mill receives and uses some poplar, too, for groundwood.

The company makes a practice of purchasing all available settler wood, but the bulk of its production stems from company-owned and operated camps.

Woodlands officials gave PULP AND PAPER the following breakdown of the source of 1949-50 wood: River, 25%; river-rail, 35%; rail direct, 25%; truck, 15%. The wood reaches the mill by rail in 4-ft. lengths, mostly during the winter months. Trucks bring in the wood in 8 and 16-ft. lengths and it is slashed at the mill. In the summer, river and rail wood is delivered in 8, 12 and 16-ft. lengths, most of it being slashed at the various loading points.

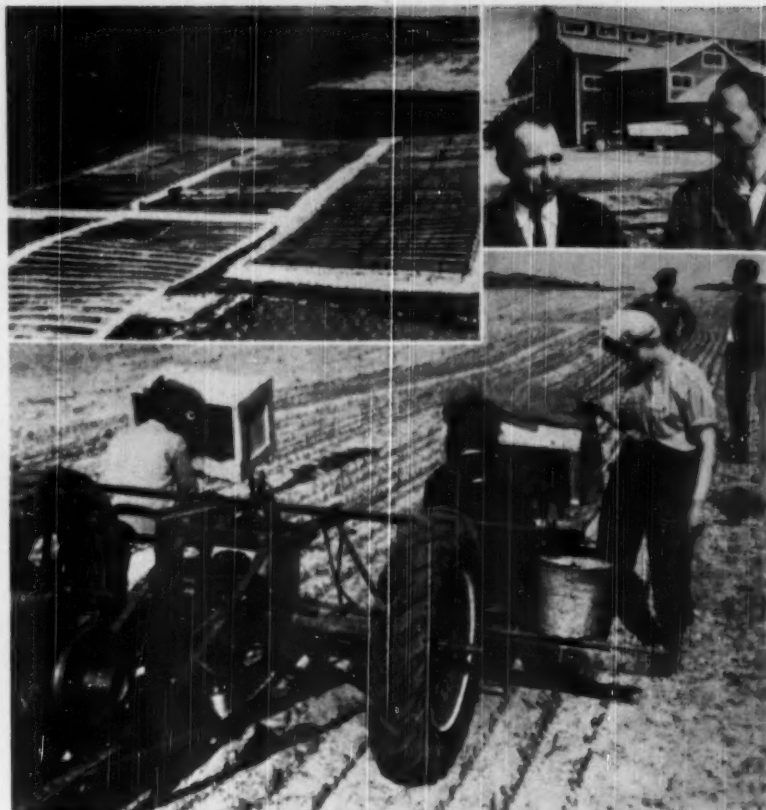
The aim of the Spruce Falls Power & Paper Co. forestry program is to insure an adequate continuing supply of black spruce, although at the company's forest nursery you can see sample plots of white spruce, Norway spruce and other species.

The forest nursery is a distinguishing feature of this company's operations. It was initiated only a few years ago and is still in its pioneering phase, but already it is something well worth seeing.

The nursery is a few miles east of Kapuskasing on sandy soil, some of which was originally developed as a farm. In the clay belt it was difficult to find a sandy location.

"Artificial replanting on clay ground such as we have here in the Kapuskasing area is essential for a sustained yield program, and we are committed to that policy," says Woodlands Division Manager G. W. Phipps. The forestry department carries the ball from there. Ed Bonner, chief forester, is a University of Toronto graduate with a master's degree.

In 1930 sample plots were laid out to study growth. The company now maintains about 100 of those, each one an acre in extent. These have been remeasured at five-year intervals. They



MEN, WOMEN AND MACHINES have roles in Spruce Falls famed tree nurseries.

Top left: Sections of nursery near Kapuskasing. More than 100 acres are allocated for this purpose.

Top right: FORESTER JACK DAY (left), who is also in charge of the sawmill at Fauquier, shown in background, and CHIEF FORESTER ED BONNER (right). As part of its agreement with Ontario government, Spruce Falls operates this sawmill as well as its pulp and paper operations.

Below: THE HOLLAND REPLANTER used at nursery near Kapuskasing, operates on its own power and guiding itself rolls along through rows of tiny black birches while two girls feed seedlings into revolving planting disc.

are serving as a guide to the whole reforestation program. It is company policy that stands of less than 100 years of age must not be cut. In other words, the operation is based on a 100-year rotation.

Regeneration surveys are made every year to determine the silvicultural results of the logging methods. In 1935 the stocked-quadrat method of survey was adopted. These surveys were first made five years after cutting, but as older cutover became available, were extended to 10 and 15-year-old areas. Some of next year's surveys will be in 20-year cutover.

"It's evident from experiments we have made that the critical factor in establishing spruce regeneration on well-drained slope types is not seed supply, but rather the development of proper seedbed conditions," says Mr. Bonner.

"A readily available and constant moisture supply is essential for the germination and establishment of spruce seedlings. Under the canopy of the mature forest, spruce advance growth occurs generally only on well-rotted logs, patches of sphagnum and other favorable sites. Balsam, with its better root growth, is more resistant to drought and is fairly generally distributed over the forest floor. Poplar seldom appears until cutting or other disturbance exposes the forest floor.

"There is little seeding in of conifers after cutting and thus the main dependence for the new crop is on the advance growth and this is predominantly balsam. It is impossible to improve conditions for spruce without, to a

much greater extent, improving conditions for balsam as well. No matter how light the cut, the exposure of the forest floor causes some drying of the seedbed and thus retards conifer reproduction."

In some experimental plots broadcast sowing of seed was tried, but without success and it seems pretty clear nature cannot be depended on to do the whole job.

Although experimental work to date has failed to show how logging methods may be changed to assure adequate spruce reproduction in high ground, research is continuing. The policy is clear cutting, entailing the establishment of the nursery and the planting of a portion of the well-drained areas. These slopes represent about one-third of the annual cut.

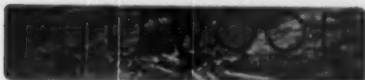
About one-third of each acre is easily accessible, and when this is planted at six-foot intervals, one-third of the area will then be 100% stocked and combined with the scattered natural regeneration the whole tract will be 50% to 75% stocked to spruce. This will produce stands comparable to those now being operated.

The policy is to plant during the first season following cutting. A crew of two or three men work up each strip road planting three rows, one up the center of the road and one along each side. Where the road has been skidded rather than strip cut, some adaptation of technique is necessary. A lightweight grub hoe with curved handle does the job after the loose litter and humus has been raked aside. To compete successfully with the hardwoods strong 2-2

stock of both black and white spruce is used.

The 2-3 term is applied to seedlings that were transplanted when two years old from the germinating beds to the transplant beds where they remained another two years. At the nursery, seed from selected trees in that region is planted during October in sandy soil and lightly covered by sand and moss. Moss is removed in the spring after germination and during the dry months lath screens are laid across the beds.

Two years later the tiny trees are laid out in the transplant beds by a Holland automatic replanter mounted on rubber tires, self-propelled and guided. One machine was in use this year; two will be added in 1950.



MEETINGS

Intermountain Logging Congress—
Spokane, Wash. Mar. 29-31

So. Pine Ass'n Machinery Show—
New Orleans Apr. 19-20

Olympic Logging Conference—Em-
press Hotel, Victoria, B. C.

April 20-21

Forest Research Society Industry
Show—Armory, Portland, Ore.

June 26-30

GORDON GODWIN, assistant general woodlands manager, Ontario Paper Co. and Quebec North Shore Paper Co., has been re-elected executive vice president of the Canadian Forestry Association. He also returned as a director of the Ontario Forest Industries Association.

SOUTHERN PULPWOOD MEET

(Continued from page 58)

and operators to smaller land owners.

3. The association urge large owners to supply free demonstrational quantities of Ammate or similar poisons to small land owners to suppress undesirable hardwoods, rapidly becoming a menace to pine reproduction.

4. More effort in some communities for

more county allocations for forestry aid.

5. More large owners devote more effort along demonstrational lines including cutting practice, planting, forest management, etc.; and provide refreshments. The companies to take more active part in fairs, etc., providing speakers.

6. Devote more time, study, and effort to educational programs directed primarily toward youth.



SOUTHERN PULPWOOD CONSERVATION STAFF, together at Atlanta meeting (L. to R.): H. J. DOYLE, FRANCIS J. COOK, MRS. DOROTHEA LOVETT (office staff), HENRY J. MALISBERGER, DAWSON M. JENNINGS, and E. A. FREEMAN. Malisberger is General Manager, the other four, foresters.

Calcasieu Ends Expansion

Completion of the \$6,500,000 expansion program of the Calcasieu Paper Co., Elizabeth, La., was expected about March 21, placing that company on a par with the most modern installations in the Southern industry. The new buildings and equipment will provide an additional 125 tons per day of paper, with equi-

valent pulp making capacity, bringing the total to 200 tons.

Alvin H. Johnson & Co., Inc., New York, is consulting engineer for the project; and H. K. Ferguson, Cleveland, Ohio, contracting engineers.

New installations include a 160-inch trim Fusey & Jones Fourdrinier paper machine capable of producing at 1500 feet per minute, with J. O. Ross Engineering Co. hood and ventilating equipment and General Electric drive; Nash vacuum pumps, Warren stock pumps, Impco washers; four Blaw-Knox rotary digesters; Dorr causticizing; General American evaporators.

The power plant will include a 175-ton unit Babcock & Wilcox Tomlinson recovery unit producing approximately 66,000 lbs. of steam per hour at 200 psi. Also, there will be two B & W power boilers, with ABCO Furnace Co. (Fort Worth, Tex.) fire boxes. Electrical power source will be two 2500 KW Westinghouse turbo-generators.

One of the older mills in the south, Calcasieu's 30,000-acre pine plantation is antedated only by the industrial forest plantings of the old Great Southern Lumber Co. now held by another paper company.

Acquisition of 53% of the capital stock of Calcasieu by the Jacksonville Paper Co., Jacksonville, Fla., was effected in the summer of 1946. At the time, the mill was producing 50 tons daily of kraft paper with a 96-inch trim Beloit machine. The new management erected a modern bag factory, daily production of three million bags, and production of paper was stepped up to 60 tons.

Paper Mill Superintendent Wanted

Large Eastern mill making sulphite, sulphate and groundwood specialties. Exceptional opportunity for the right man. He must be physically active and capable of assuming full responsibility. Only the highest type of practical paper maker will be considered. Submit complete experience and education. Reply Box P&P-74, c/o Pulp & Paper, 71 Columbia Street, Seattle 4, Wash.

WANTED—CAMERON 88" Type T-18 Rewinder, 42" Rewind capacity, or similar equipment, with six driers complete. For use at end of paper machine after dampener. Bottom side of sheet dare not touch any drums or rolls after dampening. Reply Box P&P-72, PULP & PAPER, 71 Columbia St., Seattle 4, Wash.

Southern paper manufacturer expanding technical services is interested in considering applications for the following positions as specified:

General Engineering Position Specification:

Graduate engineer, or equivalent study and practical experience. Under 30 years of age. Physically qualified to work around moving machinery. Congenial and effective personality. Minimum of three years' practical experience, at least one being in responsible charge. Ability to produce working drawings quickly is essential, administrative ability highly desirable.

Power Engineer:

Work consists of study, design, layout, erection, operation and maintenance of steam and electrical generation and distribution systems and equipment.

Pulp Mill Engineer:

Work consists of study, design, layout, erection, operation and maintenance of sulphate process pulp systems and equipment.

Paper Mill Engineer:

Work consists of study, design, layout, operation and maintenance of Fourdrinier paper machine systems and equipment.

Chemical Engineer:

Work consists of study of sulphate process unit operations to improve efficiency. Practical experience in instrumentation highly desirable.

Quality Inspector:

Minimum five years' experience in paper manufacture, at least two years being in responsible charge statistical probability quality control system.

Engineering Cost Estimator:

Minimum three years' experience in estimating costs of plant construction and maintenance jobs.

Salaries equal or better industry average proportional to effective ability. Applicants should state education, experience, and earnings in detail, enclosing samples of work where appropriate. Picture of applicant is desirable. Applications will be treated as strictly confidential unless applicant expressly authorizes reference check. All correspondence and exhibits will be returned within two months. Applications received after 30 days after publication date probably will not be considered.

These positions offer an unusual opportunity for men who sincerely intend to develop their value in the paper industry to the maximum. Possibility of eventual advancement to management positions is excellent.

This public solicitation will not be repeated. Address application to Box P & P 73, "Pulp & Paper."

SHIBLEY AWARD CONTEST April 7 at Camas, Wash.

The 1950 Shibley Award contest, unique in this industry as an experience or technical paper "contest" for young mill men, starts at 2 p.m. in the Camas, Wash. high school on Apr. 7 sponsored by Pacific Coast Tappi section. The papers:

"Determination of Total Solids in Ammonia Base Sulfite Waste Liquor by Conductometric Measurement," by Berry W. Bailey, Soundview Pulp Co., Everett.

"Product Segregation in a Paper Mill," by William F. Farley, Crown Zellerbach Corp., Camas.

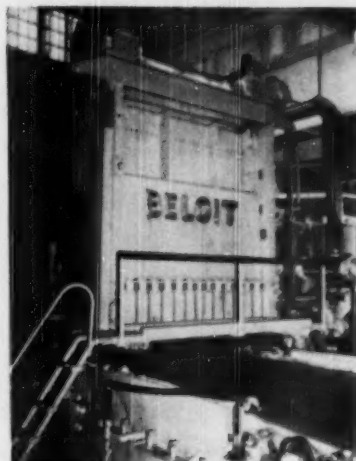
"Salinity of Saltwater Borne Wood," by John T. Firestone, Weyerhaeuser Timber Co., Pulp Division, Everett.

"Nomographs and Their Application to Continuous Kraft Bleaching," by Emerick J. Dobo, Crown Zellerbach Corp., Camas.

"Furnish Calculations on Beater Fed Machines," by W. S. Milne, Publishers' Paper Co., Oregon City.

A non-contest paper will be given by Dr. F. B. West, University of Washington on, "Design of Packed Absorption Towers." Dinner party follows.

NEW PRESSURE TYPE HEADBOX



A pressure type headbox (left) developed by Beloit Iron Works, has been in operation since early this year on No. 14 machine of the Crown Zellerbach Corp. mill at Camas, Wash., making facial type tissues. The headbox has been the subject of formal discussion in recent industry gatherings.

The new headbox, without baffles or partitions, and using five rectifier rolls, incorporates the use of air under pressure to maintain stock level and static head to obtain more uniformity in the flow and distribution of water and stock onto the wire surface.

Air in the box is pressurized to equal the theoretical heads required for operation of the machine at the desired speeds. To date the machine has been run at speeds up to and exceeding 1700 feet per minute. Nominal stock level in headbox is about two feet, with adjustable stock-level control provided to facilitate raising or lowering. Air under pressure equivalent to some 150 to 160 inches of water is maintained in the headbox by an air compressor; the compressed air entering the headbox through the lid, which is connected to the slice front by means of a flexible seal.

Pressure-loaded headboxes have been under consideration for several years and gradual progress made in their development. The design and positioning of rectifier rolls to provide maximum uniformity of flow onto the wire, without necessity of building a box high enough to produce heads of water sufficient to run paper machines at high speeds, have been prime factors in the development program concerning this headbox.

This pressure system is applicable to newer type headboxes.



SOME OF THE STAFF MEN who aided in the start up and operation of the new Springfield, Ore., kraft pulp and containerboard mill of Weyerhaeuser Timber Co. Pictures of principal officials of the mill were published recently in PULP & PAPER in the first feature article on the new mill. (Left to right):

Top Row—E. P. MOTLEY, Mill Sales Representative, previously at the company's Everett mill as assistant statistician; O. P. MORGAN, Chief Chemist, previously project chemist at Longview; R. W. POTTER, in charge of instruments, formerly in Everett; ARTHUR F. WEISBER, Electrical Supt., formerly electrical foreman at Everett; and DON E. ALLEN, Project Chemist, an O.S.C. chemical engineering grad.

Second Row—G. C. ARCHER, Recovery Plant Foreman; FRED PHILES and BILL FEENEY, Pulp Mill Shift Foreman; MAURICE M. MURRAY and WILLIAM H. YOUNGCHILD, Paper Mill Tour Foreman; and HERBERT E. HARRIS, Recovery Boiler Operator, formerly at Longview.

Bottom Row—WILLIAM HALL, Project Chemist; JAMES BRINKLEY, Jr., Asst. to Plant Engineer; EARL NIXON, Chip Plant Foreman; E. L. WIERGO, Tour Foreman; H. L. ATWELL, Storekeeper; and BOLEY THOMAS, Master Mechanic.

EVAN WOOD, personnel and safety director at the Weyerhaeuser Timber Co.'s Everett mill, has taken several weeks rest at home because of illness but his friends will be pleased to know he is showing good improvement and expected to be back at his job before long. He had been very active in community affairs, too.

THE POKER ASSN. of Port Angeles mills wishes to thank the following out of town guests for contributions during the past year: Bill Kelly, Bill Williamson, John Fulton, Bill Marshall, Tom Scarfore, Walt Salmonson, Jerry Morrell, Bill Atchison. Ernie Kertz knows his playing ability, so serves as assistant host.

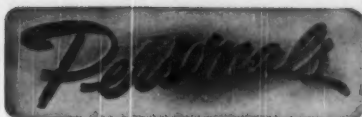
Better "Kalacloths" Now Made by KVP

Kalamazoo Vegetable Parchment Co. has made an improvement in its amyloid stock paper washcloth known as "Kalacloth" which makes it softer than the old one when wet, and the pattern of design lends itself more readily to printing, reports H. H. Jones, manager of sales promotion.

Kalacloths, widely used in many hotels and restaurants as washcloths, were featured in a cover art work of PULP & PAPER (May, 1946, issue) in which Mr. Jones' attractive daughter, Jean, modeled

THERESA FIOCCHETTI, of the personnel department of Sutherland Paper Co., Kalamazoo, and Anthony Cekola were married Feb. 18 in Paw Paw, Mich.

G. J. TICOULAT, manager of sales, Crown Zellerbach Corp., and president of the San Francisco sales managers association, joined a group of sales executives leaving New York March 4 on the Queen Mary, for England to teach British business men, at their request, how we sell goods in this country. Conferences will be in Manchester, London, Liverpool. Mr. Ticoulat is said to be the only Westerner in the group.



News About Industry People From Coast to Coast

DON CHRISTENSEN, of Kimberly-Clark Corp., Neenah, Wis., is secretary of the Fox River Valley sub-section of the American Institute of Electrical Engineers.

JACK W. WARNER has been named general manager of Gulf States Paper Corp., Tuscaloosa, Ala.

FRANCIS "BILL" HERB, President of Pacific Coast Paper Mills, Bellingham, Wash., accompanied by Mrs. Herb, has returned from a pleasant winter vacation at Camelback Inn, near Phoenix, Arizona.

GEORGE O'BRIEN, vice president, Powell River Co., Vancouver, B. C., has a special reason for watching the form charts from Santa Anita these days. His three-year-old Cliffchoise has been showing promise there.

L. C. SMITH, director of industrial relations, Thilmany Pulp & Paper Co., Kaukauna, Wis., was elected president of the Kaukauna Advancement Association.

LES P. WHITE, chief engineer of Pacific Paperboard Co., Longview, Wash., and his wife were recently hosts at their home to Mrs. White's father, **H. D. WELLS**, one of the owners of American Paper Machinery & Engineering Works, Glens Falls, N. Y. Mr. White was on terminal leave at Lake George, N. Y., from war service and met **E. E. FLOOD**, president of Pacific Paperboard, when the latter called at nearby Glens Falls to see Apnew equipment. Result: Mr. White landed his Longview position.

GEORGE TOSTEVIN, office manager, Soundview Pulp Co., and his wife, Frieda, vacationed in March at Sun Valley for the skiing. They arrived the day that **HAROLD CAVIN**, chief engineer of Puget Sound Pulp & Timber Co., and Mrs. Cavin left the ski resort.

BOB NASH, recently transferred from Chicago to the New York offices of Weyerhaeuser's pulp division, thought he had done with higher education, had graduated from college and forgotten about it. Now he finds himself an in-law alumnus of Whitman College, Walla Walla, Wash. This because he married a Miss Judy Hartley, granddaughter of a former governor of Washington State; and a graduate of Whitman. The New York group of Whitman alumni (sometimes called the Eager Beavers) snooped out Mrs. Nash and immediately approached the matter through her husband. The other day he received a letter from the treasurer of General Foods, himself an Eager Beaver, explaining that non-Whitman husbands are welcomed into the Whitman family.

OLIN W. CALLIGHAN, amiable expert on clays who can get along with everybody, proved it during the recent University of Maine Alumni luncheon at the Hotel Roosevelt, New York. He took a seat at the press table. Queried by a staff member of the New York Times as to what paper he represented, the gentleman from Kalamazoo replied: "I represent all papers, particularly coated papers, and I'm here for Paper Week." The reporter was puzzled and a little upset for the remainder of the luncheon.

HAROLD HOUTMAN, an estimator in the cost department, and Morden Schurr, a "trainee" in production and recent law graduate from Northwestern, have been transferred to the new department of industrial engineering at Sutherland Paper Co., Kalamazoo, as assistants.

... for the answers to ALL your CORROSION-RESISTANT PIPING PROBLEMS

(Left and Right) Two examples of standard butt-welded fittings furnished in flanged assemblies. By using standard Tri-Clover fittings, we can often solve many "special" problems with a minimum of extra fabrication. Send for Catalog 788 covering the standard "Zephyr-weld" fitting line.

(Right) Special 14" Inlet Header for paper mill job fabricated of type 304 Stainless Steel, with 24 2" IPS connections, using Van Stone Flanges.

(Left and Right) 24 Inch O.D. Tri-Clover welding fittings of mitre-joint construction—further examples of the special fabrications available to meet individual requirements. While standard Tri-Clover fittings incorporate streamlined "swamp" construction, we are equipped to fabricate practically any other type, in sizes through 24" O.D.

TRI-CLOVER offers you the best one source of supply for all your corrosion-resistant piping problems. Our specialized experience in alloy fabrication is your assurance of best results and lower over-all cost in the long run. When it comes to expert welding, fabricating and annealing of complex assemblies, you just can't beat the speed and accuracy offered with TRI-CLOVER'S exclusive Heli-Arc Atomic Hydrogen Welding... a specialized semi-automatic process that assures highest quality and FULL corrosion resistance.

TRI-CLOVER fittings are now being used in mills operated by West Virginia Pulp & Paper, Champion, Marathon, Dexter, International, Southland, and others. Let our corrosion specialists furnish detailed recommendations covering fittings and special prefabricated assemblies to meet your specific requirements. Send us your layout sketches.

EXPORT DIVISION 8 So. Michigan Ave., Chicago 3, U. S. A.

Tri-Clover

MACHINE CO.

Kalamazoo, Michigan

TRI-ALLOY AND STAINLESS STEEL
SANITARY FITTINGS, VALVES,
PUMPS, TUBING, SPECIALTIES

FABRICATED STAINLESS STEEL
INDUSTRIAL FITTINGS AND
INDUSTRIAL PUMPS

THE Complete LINE

PAPER WEEK AFTERMATH

(Continued from page 26)

abroad—which means mainly Great Britain, Canada, and the Scandinavian countries."

"This question," said Mr. Beckett humorously, "is fraught with interest." He expressed his view that free traders are perhaps too inclined to disregard the immediate effect of a tariff lifted suddenly. In considering free trade arguments Mr. Beckett leaned on his study of Adam Smith who in 1776 treatised on the nature and welfare of the wealth of nations and noticed that it was the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy."

After a thorough and amiable discussion, the Ohio papermaker announced that he would at that point take leave of joyed his company and admired his morals,



PRESENT at New York's annual Paper Week (L. to R.): J. WILSON SMITH and R. T. TRELF, of Hercules Powder Co. (who, together with H. O. Ware gave paper on, "Casein Adhesives in Roll Coating"); A. P. SCHREIBER, of Tracerlab, Inc., Boston, who presented paper on, "Use of Radionuclides for Process Control in Pulp and Paper Manufacturing"; C. W. GRAM, Manager of Mason-Nailon Regulator Co., N. Y.; and JAMES M. McALEER, Manager of Mason-Nailon's Boston office; H. E. INGALLS, Paper Mill Sales, Nichols Engineering and Research Corp., N. Y. He gave paper on, "The Vartrap—As Applied to the Paperboard Industry."

because he and I have our eyes fixed on the same shining goal." He then proceeded to those exceptions which constitute the argument of the industry. Detailing what the free trader, even though "I have en-might happen to a nation, Mr. Beckett

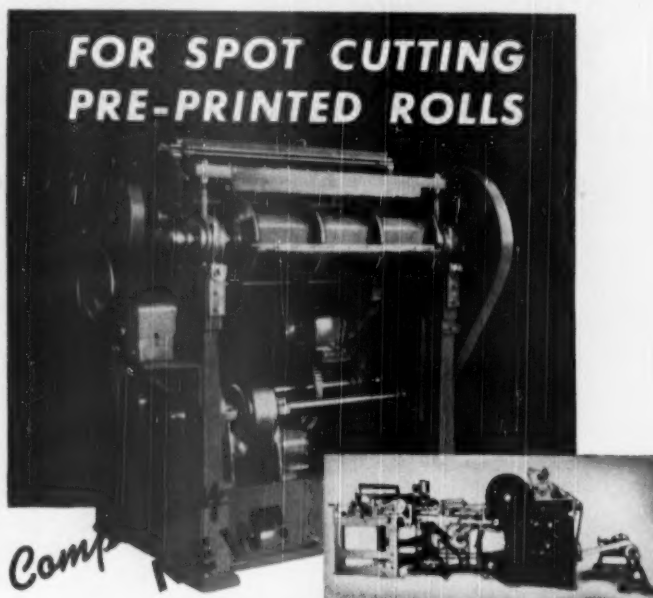
believed that the U. S. should be self-sufficient in paper. As for newsprint from Canada, the Ohio specialty paper manufacturer did not feel partial sufficiency to be as good as complete self-sufficiency, and recalled that in 1911 the U. S. had 70 newsprint mills and now has three making newsprint for sale. Of the remainder, he pointed out, 50% have gone to other grades and the rest have vanished.

"This is felt," he claimed, "is the direct result of reciprocal trade negotiations which put newsprint on the free list in 1931." (At the annual APPA banquet, R. M. Fowler, president of the Canadian association, flew to New York to remind his neighbor of other reasons, why it is better for both Canada and U. S. to have newsprint control where it now lies; he also chastized Congressman Cellers, and it could not be ascertained whether he had heard of Mr. Beckett's comment when he mounted the rostrum!)

Mr. Beckett pointed out that the multitude of competing units in the industry keeps competitive drive active even without any imports, and this competition is so fierce that the industry is "notorious" for being in a profit position below that of other major industries. Another serious problem—the fact that the annual production value is about equal to its investment on present price structures.

He scored the lack of true reciprocity, and believed that tariff regulations, when and if made, should be made in small degree then studied for effects before applying further reduction. He felt devaluation was definitely tied up with tariff matters and pointed to Canada again, as examples of results. Admitting a selfish, perhaps, viewpoint, Mr. Beckett said he hoped devaluation might continue a flow of woodpulp from Canadian and Scandinavian countries. He believed devaluation might at least partially alleviate "the hurtful effects of reducing the tariff on paper imports from Great Britain." He also called attention to a rumor that Canada's long range trade object is to switch a large part of her imports to Great Britain from the U.S.

In closing, Mr. Beckett rejected the role of seer and made one of the frankest and most sensible statements of "Paper Week." Said he: "Some of these matters are beyond the power of most of us to change. The effects of political maneuverings in the world will be great, but are now unclear. Patiently we must wait for time to bring matters into focus." He added that




SMITH & WINCHESTER ROTARY SPOT CUTTER

For precision register and accurate spot cutting of pre-printed traveling webs at a high rate of production. This high speed rotary cutter can be equipped with photo-electric compensator or may be manually controlled.

Save time, eliminate waste and increase production with this modern S & W equipment. Built in 40", 50", 60", 71" and 83" widths. May be furnished with lay boy and stacker as illustrated.

Write for detailed information!

 **THE SMITH & WINCHESTER MFG. CO.**
SOUTH WINDHAM, CONNECTICUT
Paper and Paper Bag Machinery Since 1828

only with the passing of time can anybody be certain "whether tariff-and-currency adjustments have done what they were intended to do, and we are not even sure just what they were intended to do. Because of this we may be sure of one thing only: all the parties to the international economic plans do not have the same purpose."

Lowering Tariffs

Lowering tariffs were catching it all over the Waldorf. At the Export committee meeting Richard H. Anthony of the American Tariff League was warning that "any U. S. industry which depends on tariffs are now being treated as expendable." Referring to the recent ECA recommendation that we further reduce tariffs to close the trade gap, Mr. Anthony said: "Europe is in no position to meet the demands required, regardless of U. S. inducements—but the old discriminating tariff still has a part to play in the new world."

John A. Elton, manager of the foreign department of Brown Company, New York, said: "If we really want to sell abroad when domestic sales are weak, we must be consistent and keep at it when domestic sales are strong. Pulp and paper products imported into the U. S. from abroad create one of the largest single sources of dollars—10-20% of our total imports. But at the present international conditions appear not favorable to export business of any kind from the U. S."

Yet there was determination behind the



ATTENDING PAPER WEEK sessions in New York (l. to r.): HAROLD A. SHOLL, Industry Manager, Paper Div., Brown Instrument Div., Minneapolis-Honeywell Regulator Co.; N. P. WARDWELL, Secretary & Treasurer, Carthage Machine Co.; RALPH W. KERR, Core Products Refining Co., Argo, Ill.; JOSEPH K. PERKINS, Improved Paper Machinery Co., Nashua, N. H.; H. O. WARE, Hercules Powder Co.; and C. WM. CONVERSE, Sales Engineer, Sprout-Waldron & Co., Muncy, Pa.

Speakers among them were, Mr. Kerr on "Starch and Its Application in Paper Machine Coatings"; and Mr. Perkins, with "Operation and Application of the Waco Filter."

voice of Thomas R. Wilson, director of areas division, OIT, Department of Commerce. Said he: "The year ahead will be one of unusual activity in trade agreements. The two main trade agreements that require focus of foreign traders will be the coming into effect this year of the tariff concessions at Annecy; and, second, the new tariff negotiations we hope to begin late in September." He indicated by an approximate schedule that the acceding Annecy countries would be all signed by May 30th, although in March only Haiti and Greece were in. The U. S. is obligated to make effective its concessions 30 days after each country signs. Obviously the industry would have to be patient as to when each country signs. "The State Department will issue its usual releases to the press as developments occur . . . the

acceding countries are under no obligation to notify in advance as to when they plan to sign."

The OIT man appeared to feel that more exports from this industry ought to be a breeze. First you find the per capita consumption of paper in some likely markets. Then obtain from any OIT field office the Rules of Procedure. A few figures on imports (Mr. Wilson chose newsprint and pulp) would indicate the industry has been a major factor in creating dollars "overseas." But, he noted, exports for these products were light. Contrary to Mr. Elton of Brown, the OIT man felt that the industry could do a lot of exporting if they would study it. He was even more optimistic about the efficacy of accepting the whole spirit of the President's Point 4 program.

this **CARCO** arch-winch rig costs less to buy costs less to keep

Top production at lower cost is the keynote of business these days—and so it is with loggers. Include Carco tractor equipment in your cost-cutting plans because:

Carco's first cost is less.

Carco's maintenance cost is less.

Carcometal used in these products stands up—it's cast in lighter sections because it tests at 100,000 pounds per square inch, twice ordinary steel.

The oversize winch bearings and shafts running in oil last longer. When service is required any Carco winch or hoist can be serviced without removing it from the tractor. All parts are interchangeable.

Through the years Carco has proved it can stay on the job and produce. And now when costs are important Carco equipment is saving money for loggers through less downtime, less upkeep, and a right first price.



there's a **CARCO**
winch or hoist
for nearly every
crawler tractor
ever made

Send coupon for your
free literature today

PACIFIC CAR AND FOUNDRY COMPANY

RENTON, WASHINGTON, U.S.A.
BRANCHES: PORTLAND, OREGON · FRANKLIN PARK, ILLINOIS

PACIFIC CAR AND FOUNDRY COMPANY
Renton, Washington, U.S.A.

Please send Carco winch and hoist literature

Full line ☐ for ☐ tractor
hoists and models

Name

Address

City

State

Vern Tipka Succeeds Kellogg at Newsprint Service

Vernon L. Tipka, right, engineer for the Newsprint Service Bureau, New York, has been chosen to fill the office of Royal S. Kellogg, who is possibly the senior trade association executive in the U. S. Mr. Tipka takes on his title and duties as secretary-treasurer.



John J. Zima has been elected assistant treasurer.

Mr. Tipka has had an extensive career in the industry's technical and manufacturing phases as past executive of Oregon and Michigan mills, and he was also drafted as a top wartime industry expeditor in Washington, D. C.

A SETTLED MARKET FOR PULP

It is not unusual for an individual company to decide—"to come to a tentative decision" might be more accurate—on second quarter pulp prices at Paper Week. After all, Paper Week is where a company president usually finds the personnel, including himself, all in the same spot at one time, and all absorbing the feel of things.

But this year prices showed themselves in outline unusually soon after Paper Week. In the second week after the big APPA meeting a number of prices became known exactly, in the case of a confirmed announcement or approximately by rumor. The middle of March found mills not heard from, yet generally it was felt that most of the important second quarter prices would hold close to the first. Unless something went wild before April 1st, here was another vindication of the industry's analysis of its 1950 position, as well as of its study of the overseas position.

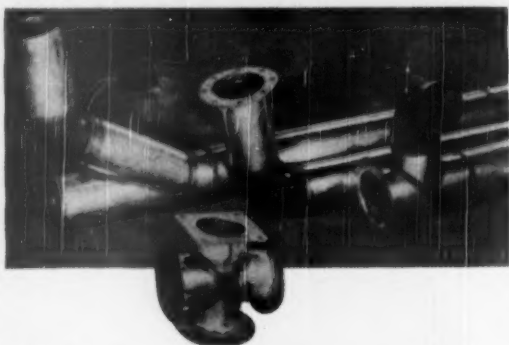
The earlier announcement may have been prompted by several factors. One could have been indications that the Swedish mills were flying signs of wanting more for their pulp, the reason was stated that there is in view an increased ocean rate which could be anywhere from \$1.50 to \$3.00. The earlier breaks into the open may have come because of spotted unrest on the part of some U. S. producers, but no such rumor has been confirmed. However, early in the game one U. S. mill raised soda pulp from \$113 to \$115. Calm followed because soda pulp would not be a major change in the general market unless it happened to precipitate a change. Many days passed with no murmur about prices in other grades. The soda pulp jump brought out soothing news from Scandinavia. The Swedes, on their nearest equivalent to soda pulp, a short-fibered hardwood sulfite, matched the amount of the U. S. (\$2.00) but were still below the U. S. price, their quotation being \$107.50 to \$109.50 on dock. In some quarters this was taken as an indication that the rise the Swedes seemed to want was what they had said, enough to pass to overseas customers the pending ocean freight rise.

In the middle of occasional signs from overseas and American importers that while the Swedes were not bullish they did want the importer to pay the new freight, came the first U. S. announcement in a broader field than soda pulp. A Pacific Northwest mill advised customers they would hold to first quarter prices, and this news reached the industry almost simultaneously with word that a second west coast mill was standing firm. In the east and elsewhere these quick moves were applauded by several experts in various segments for their probable results in stabilization of market, crystallization of the industry's long range view, and had particular value in today's tight market.

In unbleached grades the picture was not as sharp and might not focus until late in March or early April. A reverse trend was working on unbleached kraft, and it had recently taken a new price of \$77.50 up to \$80.00, on dock. Unbleached sulfite was more firm too; it appeared to be coming home, and so it looked as though bleached sulfate, far tighter now, would hold to a stable market.

So at our closing date, the pulp looked very good. There were no discernible moves in dissolved pulp whose mills do not set prices on a quarterly contract. But generally, in a period forecasting a number of new and untested factors, the pulp market seemed to be on course for a firm and steady market. Any unrest among either U. S. and Swedish mills, or any sizable price pushes, however justified, might set the stage for serious difficulties, in the opinion of several pulp men questioned in New York. Said one: "It looks to me as if the industry has again conducted itself with judgment, and I believe you will see that those early settling moves of the west coast mills had an effect sure to be quite wide."

**LONG
LIFE
AT
LOW
COST**



B-H Fabricated Monel Elbows, Tees, Pipe Assemblies

Brown-Hutchinson special fabricated fittings of Monel, installed in large and small pulp and paper mills throughout the country, have set new records in cutting maintenance and replacement to a minimum. Built to your exact requirements they afford unlimited flexibility in design without extra cost. B-H engineered stock lines, head boxes and pipe fitting installations result in greater efficiency, increased production.

Extra Bonus Features of B-H Engineered Alloy Equipment:

- Rustproof and Resistant to Chemical Attack
- Lightweight But Stronger Than Structural Steel
- Welds As Corrosion Resistant As the Alloy Itself
- Free Flow—No Fiber or Sludge Accumulation
- Maximum Wettability and Stock Cleanliness
- Lowered Costs—Greater Ease of Installation or Relocation

Investigate the money-saving possibilities of B-H fabricated equipment in your own mill. Consult us on any problem without obligation.



BROWN-HUTCHINSON

1831 Cloy St.
Detroit 11,
MICHIGAN
Trinity 4-0080

**IRON
WORKS**

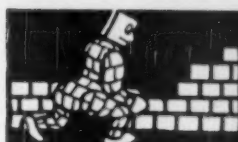
Serving Paper and Textile, Marine, Chemical and Petroleum, Metal Processing, Food Processing Industries

150,000 cu. ft. of Storage Space



**built by STEBBINS
for Slush Pulp System**

THE three Semtile chests shown in plan will provide absolutely clean storage for three kinds of pulp in slush form, ready for pumping to the beaters or stock preparation system. When you have decided on your chest requirements for any stock handling or storage system, consult Stebbins to obtain the best possible construction for long time dependable service.



Stebbins Engineering Corporation

TEXTILE TOWER

SEATTLE 1, WASHINGTON

Use



AS PART OF
Good
HOUSEKEEPING PRACTICE

**SLIME CONTROL
WITH ONE PROVEN PRODUCT**

Pacific Coast Supply Company

PORTLAND, OREGON • SAN FRANCISCO, CALIFORNIA



AT UNIVERSITY OF MAINE Alumni Luncheon which highlighted late February Paper Week events in New York: (L. to R.) LYLE C. JENNESS, Head of Dept. of Chemical Engineering, U. of Maine; J. L. OBER, Executive Vice President, Scott Paper Co.; HENRY G. BOOTH, Robert Gair, Inc.; T. G. MANGAN, International Paper Co.; CLIFF PATCH, Eastern Corp.; and JOHN B. CALKIN, Director, Industrial Cooperation Dept. at U. of Maine. Maine men show restraint no matter whether they are native-born or transplanted, but these Men of Maine are properly proud of their University's Pulp and Paper Foundation. With new trees and new ideas two generations are joined to make Maine the full-grown man again.

NCC MILLS ADD UNITS

The Jacksonville mill of National Container Corp., Southern Container Division, has practically completed the phase of its improvement program instituted in 1947. **PULP & PAPER** was told recently by William T. Webster, general manager.

Improvements include a Valley Iron Works secondary headbox and new slice for the 228-inch Fourdrinier machine, seven Sutherland refiners, and additional General American evaporator units.

Also finished are the 250-foot Custodis radical tile stack, the Dorr causticizing plant, and the installation of four new 8x12 Impco washers in a new building into which four existing washers have been moved. Another new structure at "Jax" is the new salt cake building with Jeffrey handling equipment.

A Koppers precipitator is now in operation and almost completed is a C-E recovery unit of 200-ton capacity. About a year ago, a fifth digester, this one by Blaw-Knox, was erected; and the mill now has three turbines, the third and latest being a 5000 GE double-extraction type.

The Jacksonville mill, Mr. Webster pointed out, is not the only NCC unit where improvements have taken place. It is only a part of a modernization program started in all mills shortly after the war and now coming to completion. In fact, some of the most drastic changes have occurred at National Container Corp. of Wisconsin whose mill is at Tomahawk; and at NCC of Virginia with operations at Big Island.

Wisconsin Improvements

Tomahawk has started up its new 100,000 lbs. per hour B&W boiler and turned its 5000 kw GE double-extraction turbine. Also new are the Carthage 10-knife chipper, the Swenson evaporators, the Cottrell precipitator, and the new Stevens-Adamson coal handling equipment. Many changes have been made on the 132- and 152-inch Fourdrinier machines, the work being by Beloit Iron Works and Valley Iron Works, with "Cap" Youngchild of Appleton, Wis., as consultant.

Tomahawk has started up with the new Asplund defibrator unit with Paper & Industrial reaction chambers to make cor-

rugating. This installation represents a \$1,500,000 investment.

C. G. MacLaren, vice president, is handling all construction with the cooperation of Tidewater Construction on general contracting on the semi-chemical plant, and Helmick, Eseskutsky and Lutz, of Minneapolis, working on power plant engineering, including a complete-revamping of power distribution. L. Morris Mitchell of New York, also had a hand in the Tomahawk engineering.

Virginia Mill Drops Chestnut

At Big Island, the old globe cookers have been abandoned and likewise the chestnut pulp operation. Here, too, has been installed a third Asplund defibrator with P&I reactors. Three Sutherland refiners have been installed here to prepare corrugating. Buildings at Big Island have been completely modernized, featuring glass brick panels in the walls and complete new flooring. Two new Impco washers have been installed at Big Island.

Considerable credit is being given here to Aubrey T. Taylor, formerly general superintendent, who has been made plant manager and vice president of the Virginia corporation. Others sharing honors at the revolutionary Big Island changes are Sid Brown, paper mill superintendent; Cecil Curry, pulp mill superintendent, and Travis White, chief engineer.

Michigan Installations

National Container Corp. of Michigan's mill at Ontonagon has installed a new C-E unit of 650 psi and 700 degrees steam, as well as a Westinghouse topping turbine. The cylinders on the 120-inch board machine have been rebuilt and new stock inlets provided. New stock chests, tiled by Stebbins Engineering and with Impco agitators, have been erected. They have DeZurik consistency regulators. A number of Jordans from other NCC mills have been transferred to Ontonagon.

Newton Cuneo is general manager at Ontonagon and vice president of the Michigan organization. Arch Yoder has been paper mill superintendent for years here. Merlin King has been named plant engineer in charge of power plants. Robert Gilmer is pulp mill superintendent and Howard Stephen chief chemist.

Pulp and Paper Foundation For University of Maine

The alumni luncheon held by the University of Maine each "Paper Week" is very much a part of that gathering to many industry leaders. This year the fact was apparent as President Arthur A. Hauck arose and said, "There will be a new Pulp and Paper Foundation at the University of Maine. This is particularly appropriate, because Maine was the first school in America to train men for the industry, almost 40 years ago."

When President Hauck indicated that J. L. Ober, vice-president of Scott Paper Co., Chester, Pa., would head the finance committee, it looked a certainty. The names of his helpers are: P. S. Bolton, research director, Robert Gair Co., Inc., Uncasville, Conn.; John B. Calkin, director, Department of Industrial Cooperation, University of Maine; F. A. Soderberg, General Dyestuff Corp., New York; Ralph A. Wilkins, vice president, Bird and Son, Inc., East Walpole, Mass. The curriculum committee consists of Clifford Patch, technical director, Eastern Corp.; Everett P. Ingalls, mill manager, S. D. Warren Co., Cumberland Mills; Philip S. Bolton, research director, Robert Gair Co.; Dr. Edward F. Thode, and Prof. Lyle C. Jenness, University of Maine.

The Maine Foundation has a 6-point program: To encourage chemistry or chemical engineering majors to choose the pulp and paper program; provide financial assistance; perfect a curriculum to attract students; screen students for a five-year course in operational management; advance research, and augment the Maine staff with personnel experienced in mills.

Robert Gair Co. Issues Unusual Vocational Book

A novel approach to an industrial relations problem is seen in a new booklet recently published by the Gair Carton division of Robert Gair Co., Inc., New York, in cooperation with the Vocational Education Extension Board of Rockland County, New City, N. Y.

Called "Let's Look at Your Job in the Paperboard and Folding Carton Industry" the booklet is designed to show employees how cartons are made as to men, machines and materials involved, and to give an idea of the wide variety of jobs in the industry.

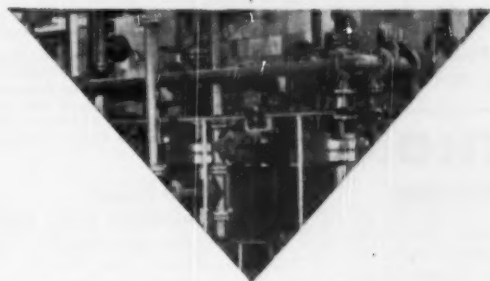
The book emphasizes, as Wilbur F. Howell, secretary at Gair, pointed out to **PULP & PAPER**, "the relationship between the young people's studies in vocational schools, and the vocations they might pursue in our plant or industry." Consequently, the book is intentionally localized by inserting the names and addresses of all employees whose pictures appear therein. It was prepared specifically for the Piermont, N. Y., plant, according to Mr. Howell. The Piermont mill employs about 1,000, is the dominant industry of the town, and draws 95 percent of its employees within a ten-mile radius of the plant. Striking, dramatic photographs reproduced in large size, and clear pointed text, are featured in the 32-page booklet.

Curlator Bulletin

A new bulletin, No. C-2 has been issued by Curlator Corp. It covers the origin, development and operation of the Model C-50 Curlator . . . shows photomicrographs of treated and untreated pulp . . . explains the many advantages of curling. You may write for a copy to Curlator Corp., 565 Blossom Road, Rochester 10, N. Y.



**cuts repairs and replacements
to a minimum!**



The conveyance of corrosive liquids can prove as hard on profits as it is on equipment. It's this realization that has compelled more plants than ever before to install corrosion-resistant saran lined steel pipe. Saran's resistance to most chemicals and solvents reduces shutdowns and lost production! Saves time and labor!

Saran lined steel pipe is available in maximum lengths of 10 feet and in sizes from 1 to 6 inches inclusive. Also available are saran lined diaphragm valves, plug valves, flanges, reducing flanges, flanged fittings, gaskets and fittings with union ends.

Write us today for further information concerning saran lined steel pipe and how it may help solve your corrosion problems. Manufactured by The Dow Chemical Company, Bay City, Michigan, distributed by Saran Lined Pipe Company, Dept. TSP-21.

Distributed by

Saran Lined Pipe Company

701 STEPHENSON BUILDING • DETROIT, MICHIGAN

Offices in: New York • Boston
Philadelphia • Pittsburgh
Chicago • Tulsa • Portland
Indianapolis • Houston
San Francisco • Denver
Los Angeles • Cleveland
Seattle • Charleston, S. C.
Toronto



April 1950



Are your Calendering costs too high?

Take a look at your calendering costs. Are calender breakdowns and lost production eating up your profits? Put one Butterworth Calender Roll in the stack and time its extra hours of top-flight service. See how easy it is to cut down production costs and get smoother, better quality work.

Many of America's leading paper mills have standardized on Butterworth Calender Rolls after making this test. They found that Butterworth Calender Rolls pay off in outstanding finishes and increased production.

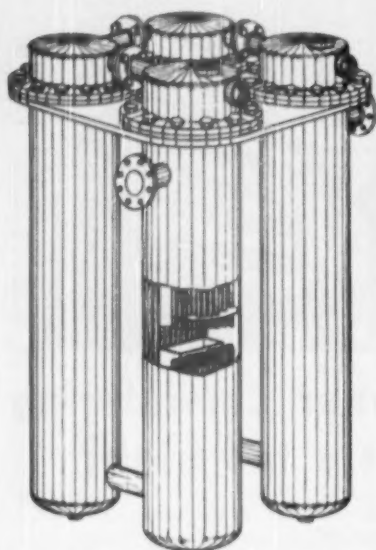
Butterworth Calender Rolls are made of the finest materials available—long staple cotton free of foreign materials and first quality paper of high rag content. Pretested for strength, hardness and density before delivery. Locked on the shaft by a special process, they can't slip, can't come loose.

We make calender rolls for all types of calendering in every size to your specifications. We can also refill your present rolls.

For full information, write or call H. W. Butterworth & Sons Company, Philadelphia 25, Penna.—Providence, R. I., 40 Fountain St. : : Charlotte, N. C., 1211 Johnston Building in Canada—W. J. Westaway Company, Hamilton, Ontario

Butterworth Calender Rolls

Fifth in a series of illustrations showing types of "HEAT EXCHANGERS" manufactured by The Alaskan Copper Works



SPRAY LIQUOR COOLER

This heat exchanger is designed to cool spray liquor, using cooling water only 4" below the final spray liquor temperature desired. The center spacer tube maintains correct velocities to maintain the designed heat transfer coefficient in this contra flow assembly.

Single units may be removed or bypassed without disrupting the operation of the remaining units.

ALASKAN COPPER WORKS

3609 E. Marginal Way
SEATTLE, WASH. EL. 4494

KEADY HEADS MARATHON Surprise Move Puts Him in Menasha

One of the big surprises of the winter in the Midwest was the announcement during the past month that William L. Keady (right), an outstanding management man in American industry, who has had a brilliant career in U.



S. Gypsum, now takes over as the new president and general manager of the Marathon Corp.

D. Clark Everest, who retires after long service, from those positions, but continues as chairman of the board, praised Mr. Keady's abilities highly and indicated Marathon management was highly pleased to obtain his services in heading that far-flung and highly complex pulp, paper and food packaging company.

An interesting change is that Mr. Keady will make his headquarters in Menasha, Wis., where in recent years the Marathon organization has gradually built up a key central organization. However, Mr. Everest continues at Rothschild, Wis., where some central activities are continuing. Other top executives in those two cities will continue in their activities.

Mr. Keady was a 1916 Annapolis graduate and a destroyer veteran of World War

I. He attended Columbia University where he received a master's degree in engineering. In 1924 he joined U. S. Gypsum, spending 12 years in production, the last two as vice president in charge of manufacturing. From 1936 to 1942, he was vice president in charge of sales; and from 1942 to 1949, he was president. He is a director of City National Bank of Chicago and of Montgomery, Ward.

"We have assured ourselves of continuity of management in furthering our amazingly complex program," said Mr. Everest. "He will admirably complement our other key executives and specialists."

Marathon Corp. is a leading manufacturer of protective food packaging with pulp and paper mills at Ashland, Menasha, Rothschild and Wausau, Wis., Menominee, Mich., and Marathon, Ont.

Rhineland Awards

Watches to Ten Employees

Folke Becker, president of Rhineland Paper Co., Rhineland, Wis., presented to ten employees Lord Elgin watches for their 25 years of continued service.

The presentation was held recently in the president's office for the third year and the Quarter Century Club now consists of 47 members.

The new members are: Joe Phillips, Carl Lammert, Blythe Hubbard, Andrew Olsen, Walter Larson, Clarence Derocher, Darrell Peevey, John T. Palm, A. R. Barber, and Edward Cody.

DAMON HEADS PMMC



JACK LEISER (left), Pioneer Wrapper Co., retiring President of the Paper Mill Men's Club of Southern California, presents the gavel for 1950 wadding to the new President, IRVIN DAMON of Northern Paper Mills. Roland Wolf of the Graham Paper Co. is 1950's Vice President; L. A. Gordiner of Nekeosa-Edwards Paper Co. is Secretary; and C. J. Warren, Paper Container Mfg. Co., is Treasurer.

GERALD N. MADIGAN (left) Johnson, Curvall and Murphy, presents to Frank R. Philbrook of the Graham Paper Co., chairman of the Paper Industry's Shriners Crippled Children's Hospital Fund, an award for the \$1,000 donation of the Paper Mill Men's Club in Los Angeles to the Shriners' Crippled Children's Hospital there.

A New Allied Group May Be Formed in New York

All winter the once well attended Allied Trades Luncheon Club, meeting once a month and staging an annual Christmas party, has been trying to decide whether to fold up, and if so, whether a new group should be formed.

In February the decision was to close up. The reasons: Lack of attendance and concern about its future. But all through the declining days of midwinter a sturdy nucleus hung on. In April a steering committee will meet to decide on by-laws, dues, program and purposes. Then all ex-members of the ex-club will be invited to hear about it and join. The introductory luncheon will be in May or possibly postponed to early Fall.

Chairman of the steering committee is Riley Owens, Anheuser-Busch, on corn products for paper. With others on the committee are A. L. Hamm, Combustion Engineering; Kenneth Youngchild, American Cyanamid; and possibly Frank L. Smith, eastern manager for Crucible Steel. It was Mr. Smith who took the chairmanship when the old club had already started downward and who gave much of experience and time to test out the interest, and who performed the valuable service of turning the membership to face the realistic issues. Has the club outlived its purpose? And are enough salesmen interested? The answer indicated "no" but Mr. Owens felt there would be a new organization, built on traditions of the old organization and geared to 1950 interests.

SALT TRONA CAKE

98% sodium sulphate
anhydrous form
free of insolubles
consistent quality
established efficiency
available

AMERICAN POTASH & CHEMICAL CORPORATION
3030 W. 6th Street Los Angeles 54, Calif.

POTDEVIN multi-wall heavy duty BAG MAKING MACHINERY

Multi-wall cement
tuber for produc-
ing up to 6-ply
tubes.



ONE ROLL DOLL READER

POTDEVIN completely equips the modern bag plant for high speed production of 2, 3, 4, 5, and 6 wall heavy-duty bags. Multi-wall valve bags with sewn ends or open-mouth bags with patented self-opening square type bottoms—sack type bottoms—sewed-end type bottoms... all can be made with POTDEVIN equipment.

Consult our engineers on any problem.
No obligation. Literature on request.
Visit our Booth No. 145 at AMA Packaging
Exposition in Chicago

POTDEVIN MACHINE CO.

1262 38th St., Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment
for Bag Making, Printing, Coating, Gluing and Labeling



It is later than you think...

SUPERINTENDENT: Bill, it's time to take off that wet felt and replace it with a new Hamilton.

MACHINE TENDER: But Boss, that felt isn't worn out. We could get a lot of production from it by slowing down the machine.

SUPERINTENDENT: Sure you could. But you would get a lot of felt marks into your sheet, too.

MACHINE TENDER: We will smooth them out at the drier rolls.

SUPERINTENDENT: Listen, Bill. The only way to get felt marks out of a sheet is to change felts before matted nap and clogged mesh can put them into it.

MACHINE TENDER: You've said a mouthful, Boss.

*From the thinnest tissue to the heaviest board
there is a Hamilton Felt that will last longer
before changing is needed.*

SHULER & BENNINGHOFFEN
HAMILTON, OHIO

Miami Woolen Mills, Established 1858

Hamilton Felts



Super strength, needed to withstand the constant impact of falling logs, is an outstanding feature of Webb conveyors.

Solid, high carbon steel "flights" ride on heavy industrial steel rail track—the chain made of heavy, high carbon steel forgings, is noted for exceptional strength. For more than 30 years these and other important advantages have made Webb conveyors the first choice of men who know.



OFFICES IN PRINCIPAL CITIES

8923 ALPINE AVE.
DETROIT 4, MICH.

MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS



News About Industry People From Coast to Coast

GLEN SUTTON, superintendent of Divisions No. 4 and No. 7 of Sutherland Paper Co., Kalamazoo, Mich., took a month's vacation in Florida. He must have been visited with an extra amount of good luck to have escaped the worst weather of the year in Michigan. With the weather and the coal situation, Glen couldn't have picked a better time.

Spokane Mill Supervisor Killed

Fred Beguelin, master mechanic for the past ten years at Inland Empire Paper Co., Spokane, Wash., was fatally injured when struck by a truck on March 13. Mr. Beguelin was a long-time supervisory employe at the mill, having been machine shop foreman for ten years before being made master mechanic.

BURT C. FISHER, sales manager, Bergstrom Paper Co., Neenah, Wis., has been named business and industrial chairman for the American Cancer Society's fund campaign in the Neenah-Menasha area.

JOHN CARLSON, assistant general superintendent, and **ADOLF ORUP**, research director, Soundview Pulp Co., spent a week recently in Lebanon, Ore., to observe and advise in the joint ammonia-base cooking experiments which Crown Zellerbach and Soundview are carrying out at that C-Z mill.

DONALD J. HARDENBROOK, vice president and director of the Union Bag & Paper Corp., has consented to act as 1950 chairman of the Paper Division of the New York Heart Association campaign.

BILL COSTER, general superintendent, Soundview Pulp Co., Everett, and his wife, Eve, enjoyed a sunny vacation near Phoenix, Ariz.

ROLAND E. FORTIER has joined Central Paper Co. of Muskegon, Mich., as the assistant pulp mill superintendent. Mr. Fortier had been tour foreman at the kraft mill of Brown Company in New Hampshire. The Muskegon mill is a kraft pulp and paper mill.

E. A. BERRY has been promoted from shift chemist to stock preparation foreman at Longview Fibre Co., Longview, Wash., filling vacancy resulting from the death early this year of **R. C. WEBER**. **H. R. AMBUEHL** has been named as new shift chemist.

JOHN McINTYRE, widely known "official greeter" and long-time public relations chief for Powell River Co. at Powell River, B. C., is "doing all right—just as good as always," says the mill magazine in answer to many queries from friends over the continent. John retired last year, the magazine says he still "keeps busy and tells the stenographers the usual morning McIntyre story."

DR. FERDINAND KRAFT, technical director, Marathon Paper Mills of Canada, has been listed in the Directory of American Men of Science in honor of his outstanding work in the field of pulp, paper and rayon production in Europe and on this continent.

P. R. SANDWELL, Vancouver, B. C., consulting engineer in the pulp and paper field, formerly chief engineer of Powell River Co., is making his second visit to Sweden within a year this spring.

Woods-Tested! Ready to Go!

THE SENSATIONAL NEW ADDITION TO THE WOODBOSS LINE
OF LIGHTWEIGHT POWER CHAIN SAWS

WOODBOSS *Redhead* ONE-TWO MAN CHAIN SAW

Designed and built for toughness, economy,
efficiency by men with know-how gained in
woods and shop.



REDHOT features of the new WOODBOSS REDHEAD!

- Now there are three champion lightweight,
right-price power chain saws... all in one fam-
ily! User-approved ONE-MAN WOODBOSS.
Handy, multi-purpose ELECTROBOSS. Power-
packed WOODBOSS REDHEAD for both one
and two man felling and bucking with any bar
up to 60 inches. And every REDHEAD feature
is backed by WOODBOSS reputation for build-
ing tough, lightweight, easy-to-run saws that
stand up to the job:
- Weight with 20" guide bar and chain, 33 lbs.
 - Full 5-HP at 3800 RPM.
 - One- or two-man operation.
 - 60-inch guide bar capacity.
 - Automatic clutch.
 - Power pump chain oiler with manual control.
 - Full 360° swivel guide bar.
 - Single cylinder motor.
 - Anti-friction bearings throughout.
 - Magnesium sand castings for light weight and
toughness.
 - Kickproof recoil starter.
 - Strap-on auto and handle.
- See! Try! Buy! New Woodboss Redhead!

USERS: Write for the name of your nearest dealer and complete details on
all three Woodboss Saws. Compare Woodboss prices. You'll find they're right!
DEALERS: There are profitable Woodboss territories open. Write Dept. PP-40
Woodboss Inc., 1800 S. E. Union Ave., Portland.

WOODBOSS, Inc. 1800 S. E. UNION AVE., PORTLAND 14, OREGON

IN CANADA: P-M PRODUCTS LTD., 847 E. HASTINGS, VANCOUVER, B. C.



LABOR AGREEMENT IN WEST

New agreements were signed in March between the British Columbia pulp and paper industry and AFL Paper Makers and AFL Pulp, Sulfite and Paper Mill Workers whereby the basic wage is increased from \$1.06 per hour to \$1.12 per hour, effective May 1, 1950.

This compared with a \$1 per hour base rate in the industry in eastern Canada where operators and unions negotiate in April. The new rate is said to be the highest base rate payable in any Canadian primary industry.

Only other important change was vacations. Employees of 15 or more years' service are entitled to three weeks annual vacation with pay; one week after one year, two weeks after three years.

Companies affected are Powell River Co., Pacific Mills, B. C. Pulp & Paper Co. and Bloedel, Stewart & Welch. J. A. Young, vice-president, Pacific Mills, and H. L. Hanson of the Pulp and Sulfite union acted as co-chairmen. John Sherman and A. E. Brown, international AFL union vice presidents, participated.

ANOTHER SEMI-CHEMICAL PULP MILL

Bathurst Power & Paper Co. to increase corrugated board output by 25,000 tons, through new semi-chemical hardwood pulp mill at Bathurst, N.B. Hardwood species are the new raw material. B.P. & P. also building new plant in St. Laurent to manufacture shipping cases.

SAFETY MEETING IN SOUTH

Annual meeting of Southern Pulp and Paper Safety Association set Apr. 24-26 at Pensacola, Fla., according to C. C. MacPike, safety director, St. Regis Paper Co. in North Pensacola, who chairmans sessions.

April 1950

HERMANN CLAFLIN REFINER

CONTINUOUS BEATER and REFINER

NOW: Fifteen large No. 3 units in operation
on Kraft Pulp making Cement Sack, En-
velope, Gumming, Asphalt and Waxing.
Production up to 200 tons and more per
day, with 200 H.P. to 350 H.P.

Mfgs. Also: TAPPI; Standard Pulp Testing
and Sheet Making Apparatus.

THE HERMANN MFG. CO.
LANCASTER, OHIO

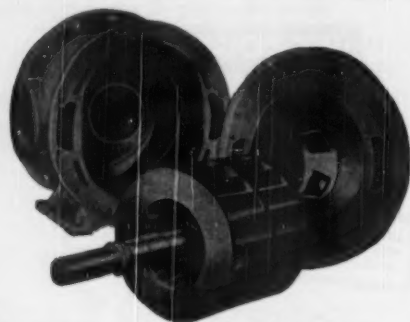
**One
contractor
for all phases
of
PULP
and
PAPER MILL
construction**

**BRITISH COLUMBIA
BRIDGE & DREDGING**

CO. LTD.

544 HOWE STREET VANCOUVER B.C.

SIMPLICITY



NASH VACUUM PUMPS HAVE ONE MOVING PART

Operating advantages made possible by the Nash principle, and present in no other type of vacuum pump, permit a new level of operating economy. Nash Vacuum Pumps have but one moving part, a rotor cast in one piece, and revolving without metallic contact. There are no valves, no pistons or sliding vanes, no internal parts requiring wear adjustment or lubrication.

NASH ENGINEERING COMPANY
SOUTH NORWALK, CONNECTICUT, U. S. A.

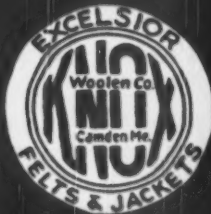
**WE FURNISHED AND INSTALLED
ALL THE PIPING WORK AT THE
MACON KRAFT MILL AT MACON, G.A.**

We have had extensive experience in paper mill piping and possess the necessary equipment for efficient installation of all piping requirements in any type of plant or mill.

ROWLAND TOMPKINS & SON, INC.
PIPING CONTRACTORS

GRAYBAR BUILDING—NEW YORK 17, N. Y.

POWER PLANT • PETROLEUM • GAS • MILL • PROCESS • INDUSTRIAL



"EXCELSIOR" FELTS

The Trademark of Felts of Superior Quality
for Every Grade of Pulp and Paper

KNOX WOOLEN COMPANY

CAMDEN, MAINE

Pacific Coast Agents

DAN E. CHARLES AGENCY, 1331 Third Avenue Building, Seattle, Wash.

FLAKT DRYER (PATENTED) CHOSEN AGAIN

For several new Canadian and U. S. mills starting up this year. Based on many satisfactory installations for low production cost, easy good operation, and producing best quality dried pulp. By now installed or sold for an aggregated production of over 4,000,000 tons per year.

* * *

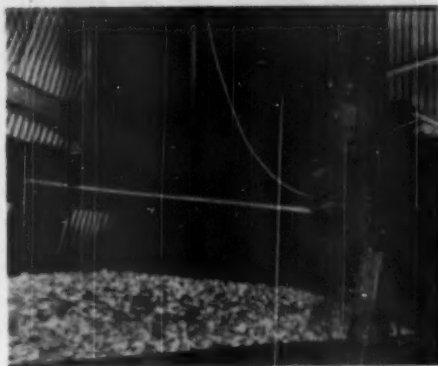
Other well proven, superior equipment: PML-Kamyr Wet Machines, Kamyr Bleaching Equipment, Screens, Heat Exchangers, Smyth Screens, etc.

Sold by:

Paper Machinery Limited
PAPER MILL EQUIPMENT LTD.
HYDRO-TURBINE CO., LTD.

Head Office: 921 Sun Life Bldg., Montreal
West Coast Representative: A. H. Lundberg, Seattle, Wn.

AT MACON-KRAFT IT'S MERRICK TOO



Both Coal to the bunkers and Wood Chips to the Digesters are accurately and continuously weighed on Merrick Weightometers at the Macon Kraft Plant at Macon, Ga.

Consult us on your conveyor weighing and weight feeding problems.

Completely Descriptive Literature on Request.

Merrick Scale Mfg. Co. Passaic, N. J.



Do you know the news of the North American Pulp, Paper and Cellulose Industries?

SUBSCRIBE NOW to PULP & PAPER. The NORTH AMERICAN REVIEW NUMBER is included in subscription rates below:

1 YEAR \$3.00, 2 YEARS \$5.00, U. S., Canada, Mexico
and other member nations of Pan-American Union.
1 YEAR \$4.00, 2 YEARS \$7.00 in other countries.

Fill in this coupon NOW and return to

PULP & PAPER

71 COLUMBIA ST., SEATTLE 4, WASH.

NAME _____

COMPANY _____ POSITION _____

ADDRESS _____

CITY AND STATE _____

WEYERHAEUSER



**BLEACHED
SULPHITE**

**BLEACHED
SULPHATE**

WILLIAMS-CRAY CO.

PAPER and PULP MILL
SUPPLIES

221 NO. LA SALLE STREET

CHICAGO 1,

ILLINOIS

SINCE  1883

APPLETON

PULP & PAPER MILL MACHINERY

SUPERFINISHING EQUIPMENT
WINDERS • REWINDERS • SLITTERS
ROBERTS PULPWOOD GRINDERS
GILBERT AND NASH GUIDES

THE APPLETON MACHINE COMPANY
APPLETON • WISCONSIN

RAY SMYTHE

*Pulp and Paper Mill
Machinery and Supplies*

REPRESENTING:

RICE BARTON CORP. — HEFFENSTALL CO.
SHENANGO-PENN MOLD CO.
LANGDON COLLAPSIBLE WINDER SHAFTS
NORTHMAN DUFFKE CO.
ATWOOD-MORRILL CO.
SMYTHE MULTIVAT FLAT SCREENS
CARTHAGE MACHINE COMPANY

501 PARK BUILDING, PORTLAND 5, ORE.
Beacon 0502

SULPHITE MILL ACID PLANTS

SULPHUR BURNING PLANTS
GAS COOLERS — SURFACE AND SPRAY TYPE
JENSSEN TWO TOWER ACID SYSTEMS
JENSSEN PRESSURE ACID SYSTEMS
JENSSEN AUXILIARY PROCESS TOWERS
RECOVERY PLANTS — COOKING ACID

SOLUBLE BASE ACID PLANTS
SEMI CHEMICAL PLANTS
JENSSEN SO₂ ABSORPTION SYSTEMS

FOR BLEACH PLANT APPLICATION

SULPHUROUS ACID PREPARATION

G. D. JENSSEN CO. INC.

WATERTOWN, NEW YORK
WESTERN REPRESENTATIVE:
A. H. LUNDBERG, 308 Orpheum Building, Seattle 1, Washington
FOUNDED 1915

USE  LEAD

NORTHWEST LEAD COMPANY

SAN FRANCISCO SEATTLE LOS ANGELES

WM. K. STAMETS, JR.
CONSULTING MECHANICAL ENGINEER

h o g e b u i l d i n g

SEATTLE 4
MUTUAL 0088

PULP BLEACHING COMPANY

71 Columbia St., Seattle 4, Wash.

EQUIPMENT FOR
CELLULOSE PURIFICATION
AND RELATED PROCESSES

QUALITY CHROMIUM PLATING

For rolls, screen plates, slice lips, etc.



CHROMIUM CORPORATION OF AMERICA

New York Waterbury Cleveland Chicago

WALTER S. GORDON, JR.

CONSULTING ELECTRICAL ENGINEER

Pulp and Paper Mills Industrial Plants

"Old Electric Systems Need Modernizing!"

Perkins Building 108 East 11th Street TACOMA 2 WASHINGTON Telephone BRoadway 9442

JAMES I. METCALF & Co.

CONSULTING ENGINEERS

POWER and WATER SUPPLY

Lloyd Building SEATTLE 1 SEneca 6323

JOHN P. VAN ORSDEL

Forest and Lumber Consultant

55 YEARS OF EXPERIENCE IN THE FORESTS OF ALASKA,
WESTERN UNITED STATES AND CANADA

Office: MAin 0253 1411 4th Ave.
Res. MAin 1300 SEATTLE Building

EMBOSSING ROLLERS

Roehlen Engraving Works, Inc.

324 St. Paul St., ROCHESTER 5, N. Y.

MFGRS. OF ENGRAVED EMBOSSING ROLLERS
AND PLATES OF ANY TYPE AND DESCRIPTION
WORN ROLLERS RE-ENGRAVED
COMPLETE DESIGNING AND ENGINEERING SERVICE

ARTHUR J. NORTON

CONSULTING CHEMIST

Resins, Plastics and Chemical Research Development

2919 First Ave. So. Seattle, Wash.


Keep informed of news of the entire North American industry by
subscribing NOW to PULP & PAPER. 1 year \$3.00, 2 years \$5.00, U.
S., Canada, Mexico and other member nations of Pan-American Union.
1 Year \$4.00, 2 Years \$7.00 in other countries.

Fill in this coupon NOW and return to PULP & PAPER,
71 Columbia Street, Seattle 4, Wash.

NAME _____
ADDRESS _____
CITY AND STATE _____

J. E. SIRRINE CO.
Greenville, South Carolina *Engineers*

PAPER & PULP MILLS • WASTE DISPOSAL • TEXTILE MILLS •
APPRAISALS • WATER PLANS • STEAM UTILIZATION •
STEAM POWER PLANTS • HYDRO-ELECTRIC • REPORTS

 **C. M. GUEST & SONS**
Builders

GREENSBORO, N. C. ANDERSON, S. C.

Paper & Pulp Mills • Waste Disposal • Water Filtration
Steam Power Plants • Process Piping • Textile Mills
SERVING THE INDUSTRIAL SOUTH for MORE THAN FIFTY YEARS

STADLER, HURTER & COMPANY
CONSULTING ENGINEERS
SUITE 609 DRUMMOND BUILDING
Montreal, Canada

Specializing Since 1923 in
PULP AND PAPER MILLS
FROM FOREST TO FINISHED PRODUCTS
A. T. HURTER, M. E. I. C.

W. H. RAMBO
INDUSTRIAL PLANT ENGINEER
SPECIALIZING IN
DESIGN—ESTIMATES—SUPERVISION—CONSTRUCTION
PAPER MILL WOOD ROOMS
SAWMILLS, WOODWORKING and VENEER PLANTS
Guardian Building BEacon 5102 Portland 4, Oregon

JOHN B. CALKIN
Consultant to the Pulp and Paper and
Chemical Process Industries
Technical and Marketing Consultations
Industrial Research Advisor
Laboratory & Pilot Plant Investigations
500 Fifth Avenue at 42nd Street NEW YORK 18, N. Y.

THE RUST ENGINEERING COMPANY
Engineers and Constructors
Pittsburgh, Pa.
Portland, Ore. • Los Angeles

Complete Service for
PULP AND PAPER MILL PLANTS AND FACILITIES
MODERNIZATION, DESIGN, CONSTRUCTION and MAINTENANCE

FRANK C. VAUGHAN
Consulting Engineer

STUDIES, DESIGN, ESTIMATES, CONSTRUCTION,
MANAGEMENT AND OPERATION
for
KRAFT, SEMI-CHEMICAL
PULP, PAPER AND STRUCTURAL BOARD MILLS
7th AND HOSPITAL STS. • RICHMOND, VA.

CHAS. T. MAIN, INC.
CONSULTING ENGINEERS

Process Studies, Design, Specifications and Engineering Supervision

PULP AND PAPER MILLS

Steam Hydraulic and Electrical Engineering
Reports, Consultation and Valuations

89 Federal Street

Boston 10, Mass.

STEVENSON & RUBENS
CONSULTING ENGINEERS

756 Olympic National Bldg. Seattle 4, Wash.
SEneca 0414

**LAYOUT AND
STRUCTURAL DESIGNING**

BORIS R. RUBENS

JOHN H. STEVENSON

ALVIN H. JOHNSON & CO.
INCORPORATED

**PULP AND PAPER MILL
ENGINEERS**

Serving the Pulp & Paper Industries Since 1929

415 Lexington Ave.

New York 17, N. Y.

PAUL A. LAURENCE COMPANY
ENGINEERS and CONSTRUCTORS
416 BUILDERS EXCHANGE MINNEAPOLIS 2, MINN.
CANADIAN OFFICE: Fort Frances, Ontario, Box No. 69

PULP AND PAPER MILLS
STEAM AND HYDRO-ELECTRIC POWER PLANTS
TOWERS — CHESTS — TILE TANKS
ACID RESISTING LININGS

PFEIFER AND SHULTZ - - Engineers

Specializing in the Design of Steam Power Plants

Mills and Industrial Buildings • Reports • Plans and Specifications • Supervision of Construction
WESLEY TEMPLE BUILDING MINNEAPOLIS 4, MINNESOTA

WRITE! WIRE! CONTACT! CALL!

Farnes & Martig, Inc.

CONTROL VALVES FOR:

Stock • Chlorine • Caustic
Steam • Water • Sulphite Liquor

417 N.E. Couch St.
PORTLAND 14, OREGON
Telephone EA. 1949

422 Smith Tower
SEATTLE 4, WASH.
Telephone MAIN 5253



STAINLESS STEEL VALVES
to meet Your specific need

Special valve orders filled in 10 days

FABRI-VALVE CO. OF AMERICA
c/o Northwest Copper Works, Inc.
2321 No. Randolph Street • Portland 12, Oregon

CHEMIPULP PROCESS INC.

500 WOOLWORTH BUILDING WATERTOWN, NEW YORK

CHEMICAL PULPING PROCESS

Hot Acid Cooking and Recovery Systems
Chemipulp—K-C Digester Circulating Systems
Chemipulp—K-C Improved Acid Plants
Digester Waste Liquor SO₂ Gas and Heat Recovery
Chip Pretreatment Preparatory to Cooking

Associated with

CHEMIPULP PROCESS LTD.

403 CRESCENT BUILDING MONTREAL, P. Q.
S. A. SALMONSON, West Coast Representative
907 Terminal Sales Bldg., 1220 S.W. Morrison St., Portland 5, Ore.
Office: ATwater 4167 — Residence: KENwood 3944

Northwest Filter Co.

SEATTLE
122 Elliott Ave. West.
GA. 7760

VANCOUVER, B. C.
Foot of McLean Drive
HA. 1185

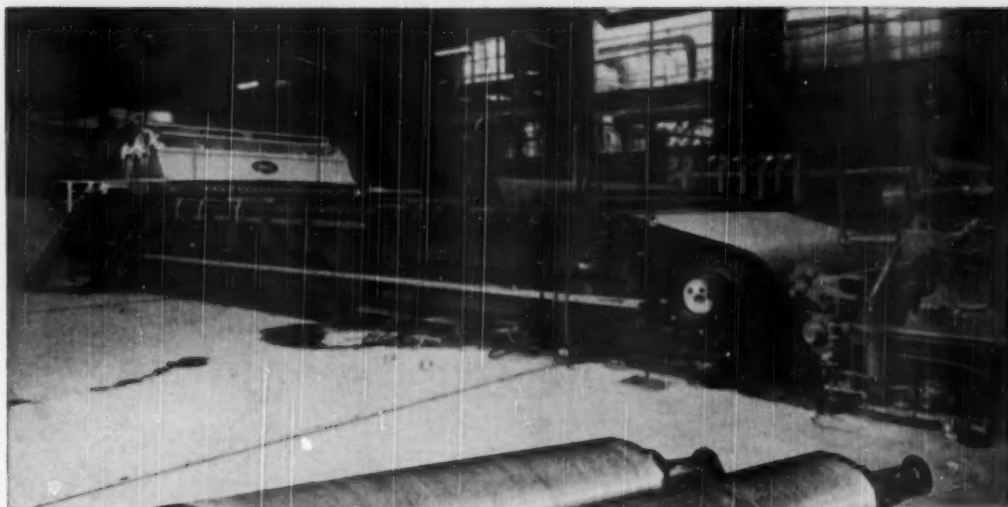
WATER PURIFICATION

Foster Wheeler Corp., Power Plant and Process Equipment
Buell Engineering Co., Inc., Dust Recovery Systems
Calgon, Inc., Threshold Treatment
Monterey Sand Co., Filter Sand
Hagan Corporation, Combination Control
Hall Laboratories, Inc., Boiler Water Conditioning

WILLIAM R. GIBSON, Representing
Inflico, Inc. (International Filter Co.)

FIRMS YOU SHOULD KNOW Advertising Index

Alaskan Copper Works	76	Hermann Mfg. Co., The	79	Rambo, W. H.	83
American Potash & Chemical Co.	77	International Nickel Co.	b	Rayonier Incorporated	6
Appleton Machine Co.	82	G. D. Jensen Co., Inc.	82	Robert and Company Associates	54
Appleton Woolen Mills	81	Johnson & Co., Alvin H.	83	Ruehlen Engraving Works, Inc.	82
		Jones & Sons Co., E. D.	1	Ross Engineering Corp., J. O.	29
Bagley & Sewall Co.	4	Knox Woolen Co.	80	Rowland, J. H. & Son, Inc.	90
Beloit Iron Works	33 and 34	Kohler Systems	11	Rust Engineering Co., The	83
Bingham Pump Co.	61	Laurence Co., Paul A.	83		
Bird Machine Co.	27	Lydden & Co., Inc.	2	St. Regis Paper Co.	18
Black-Clawson Co. Divisions: Shurtle Bros. Machine Co., Dilts Machine Works; Kohler Systems	11	Main, Chas. T., Inc.	81	Shurtle Bros. Machine Co.	11
B. C. Bridge & Dredging Co.	80	Mason-Neelan Regulator Co.	8	Shuler & Benninghofen	77
Brown Hutchinson Iron Works	72	Merrick Scale Mfg. Co.	81	Sirrine Co., J. E.	83
Brown Instrument Co., Minneapolis Honeywell Regulator Co., Inside Front Cover	57	Metcalf & Co., James I.	82	Smith & Winchester Mfg. Co.	70
Bulkley, Dunton Organization	57	Morden Machines Co.	17	Ray Smythe	82
Butterworth & Sons Co., H.	73	Nash Engineering Co.	80	Soundview Pulp Co.	12
		Newport News Shipbuilding & Drydock Co.	59	Sorout Waldron & Co., Inc.	5
Calkin, John B.	83	Northwest Copper Works, Inc.	84	Stadler, Hurter & Co.	83
Cameron Machine Co.	2	Northwest Filter Co.	84	Stamets, Wm. K., Jr.	82
Chemipulp Process, Inc.	84	Northwest Lead Co.	82	Stebbins Engineering Corp.	73
Chromium Corporation of America	82	Norton, Arthur J.	82	Stevenson & Rubens	83
Classified Advertising	67	Oliver Corporation, The	65	Stewart & Co., James	37
Combustion Engineering Superheater, Inc.	45	Pacific Car & Foundry Co.	71	Stowe Woodward Co.	31
Crane Co.	13	Pacific Coast Supply Co.	73	Sumner Iron Works	15
Curlator Corporation	7	Paper Mill Machinery, Ltd.	81	Sutherland Refiner Corp.	47
		Parsons & Whittemore Inc.	4		
Dilts Machine Works	11	Perkins-Goodwin Co.	Outside Back Cover	Texas Gulf Sulphur Co.	3
Dow Chemical Co.	75	Pfeifer and Shultz	77	Thew Shovel Co.	63
Downton Mfg. Co.	Inside Back Cover	Potdevin Machine Co.	77	Trent Tube Co.	9
		Powell River Sales Co.	16	Tri-Clover Machine Co.	69
Electric Steel Foundry Co.	19	Puget Sound Pulp & Timber Co.	10		
Fabri-Valve Co. of America	84	Pulp Bleaching Co.	82	Union Pacific Railroad	14
Farnes & Martig, Inc.	84	Pusey & Jones Corp.	50	Van Orsdel, John P.	82
Foster Wheeler Co.	39			Vaughan, Frank C.	83
Gordon, Walter S., Jr.	82			Webb Company, John B.	78
Gortseman & Co., Inc.	20			Westinghouse Electric Corporation	42 and 43
Guest & Sons, C. M.	81			Weyerhaeuser Timber Co.	81
				Williams-Gray Co.	81
				Woodhoss, Inc.	79



Downingtown suction couch roll installed at the mill of P. H. GLATFELTER CO., Spring Grove, Pa.



Two Downingtown suction couch rolls ready for shipment and installation. Double suction boxes of these rolls combine the virtues of a wide, low vacuum box and a narrow, high vacuum box in ONE roll.

5 BIG ADVANTAGES of Suction Couch Rolls with Double Suction Box

A Suction Couch Roll with a double suction box is a Downingtown standard—no special construction is needed to give you these 5 BIG advantages: (1) Maximum water removal at the couch assures SAFER RUNNING thru presses at high speed. (2) Large suction area absorbs carry-overs from the flat boxes and helps PREVENT them from causing BREAKS. (3) VACUUM is applied GRADUALLY....In many mills, where high vacuum is used in a single box, it has been found that fibres are drawn into the wire, thus hindering easy removal of the sheet from the couch and sometimes even causing picking. (4) A double box in one roll means that free air is NOT HANDLED TWICE, as it is when a combination of suction couches is used.

(5) Minimum vacuum equipment and MAXIMUM WATER REMOVAL. The double suction box consists of one wide, low or moderate vacuum box and one narrow, high vacuum box. (6) Due to Downingtown roll construction, which permits a rear suction, the two box connections are made at front and rear. This eliminates the constriction of air passages which is necessitated when both connections must be made at the front....This development is just one of many perfected by Downingtown engineers over the years. Write for information about our other suction rolls, too, including single suction box, cantilever suction couch rolls and suction press, drum, extractor, and cylinder couch rolls.



DOWNINGTOWN MANUFACTURING COMPANY
DOWNINGTOWN, PA.

DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY SINCE 1880

PULP

Perkins-Guthrie Co.

Established 1846

CHICAGO, ILLINOIS

30 ROCKEFELLER PLAZA, NEW YORK

LUFKIN, TEXAS

STOCKHOLM, SWEDEN

PAPER